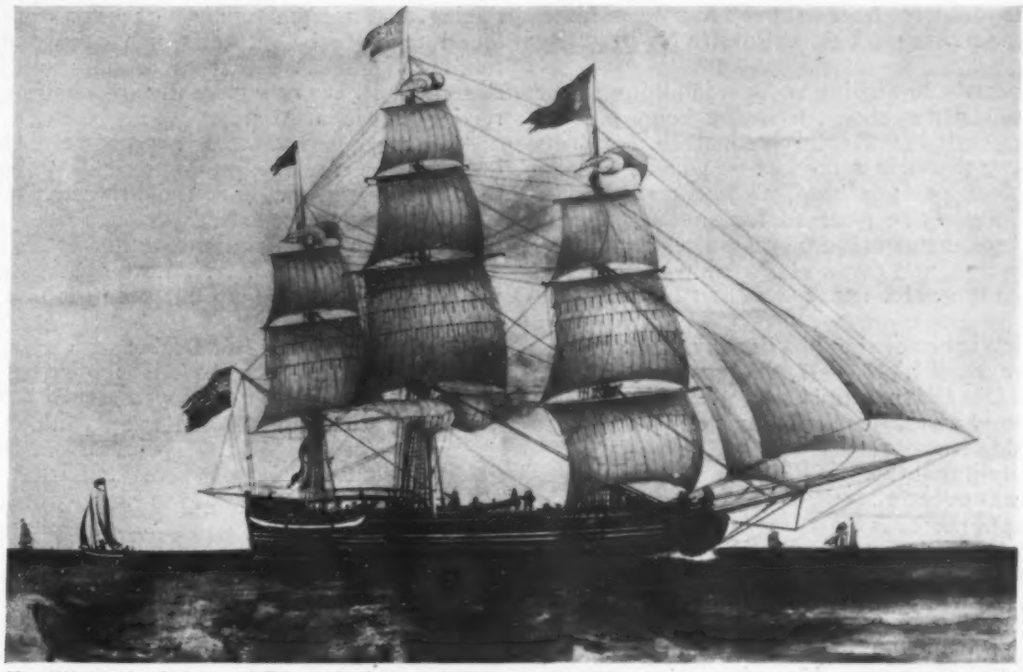
YACHTING

VOLUME XXXIX
NUMBER III

MARCH, 1926

35 Cents a Copy
$4.00 a Year



The Whaleship *John and Edward*, of the period of the *Barclay*, 1800 to 1830. From a print in the Old Dartmouth Historical Society.

A Cruise of Troubles in the *Barclay*

Consisting Mainly of Extracts from a Whaling Log Book of the 1830's

By ARTHUR C. WATSON

IN *The Medley, or New Bedford Marine Journal*, of the date of October 18, 1793, is the following announcement: "Tomorrow morning between the hours of 7 and 8, the new and beautiful ship *Barclay*, burthen 270 tons, will be launched from the shipyard of Colonel George Claghorn. The satisfaction of viewing this token of our increasing commerce will, we doubt not, induce many to watch the first beams of the Rising Sun."

Thus did the ship *Barclay*, a doughty and famous whaleship, come into the world. Good masters commanded her, though none left as well remembered a name as the man who shaped her hull. George Claghorn, in whose shipyard the *Barclay* was built, was the same George Claghorn who built the Frigate *Constitution* at the Charlestown navy yard. He came to New Bedford when the whaling industry was rising there, profiting by the boom times and by the great promise held for the fast-growing business.

The *Barclay* was built for Mr. William Rotch of Nantucket, who was at the time in the midst of a checkered business career. He had been discouraged with the hard times that had reigned in Nantucket during and immediately after the Revolution. The whaling business of the little island community was in the doldrums and, in 1785, Mr. Rotch went to England, hoping to transfer his interests to that country, where demand for oil was comparatively large, and where bounties were offered to vessels engaged in whaling. Mr. Rotch was unsuccessful in arranging matters to his satisfaction in England, and he turned to France. Here his welcome was gratifying, and for a number of years Mr. Rotch and his friends carried on a profitable business from Dunkirk. The war between England and France brought an end to the success, however, for Rotch's vessels were marked ships, and were captured by the British whenever opportunity offered. Mr. Rotch, in 1793, returned to London, to recover his vessels which had been brought home as prizes by the British cruisers. In 1794, he gave up his foreign projects and came back to his native soil on the new vessel from Claghorn's shipyard, the *Barclay*.

The most famous period in the *Barclay's* history was when David Glasgow Farragut paced her deck as her commander. The episode came about in singular fashion. When Captain Porter took the frigate *Essex* around Cape Horn to safeguard American interests in the Pacific during the War of 1812, there were some Yankee whaleships in those waters. Peru was acting as an ally of Great Britain, and one particular Peruvian vessel had captured two New Bedford whalers, the ship *Barclay* being one of them. The *Barclay*, with a prize crew on board, was just entering the harbor of Callao when she was recaptured by the *Essex*. Farragut was on the *Essex* and was more or less a protégé of Captain Porter. To the youngster (for Farragut was then only twelve years of age) fell the task of

taking the *Barclay* to Valparaiso. He was sent on board the whaler with a few men from the frigate, and placed in command. The New Bedford captain, whose authority was thus clipped, and whose duties lay solely in giving advice to Farragut in regard to navigation, naturally resented the arrangement. He tried to make trouble for his young master, but the boy Farragut showed the strong qualities that were later to sweep him on to fame, and he sailed the *Barclay* to Valparaiso with his authority intact.

The *Barclay* made 20 whaling voyages in all from New Bedford. Once, she was absent from her home port 65 months, leaving in 1844 and returning in 1850. It is, perhaps, safe to say that this is the longest whaling voyage from an American port; at least, the writer has never heard of one longer. She returned for the last time in 1857, and was broken up in 1864, 71 years after her launching, and within a stone's throw of that shipyard whence she slipped into the water under the "first beams of the rising sun."

One of the log books of the ship *Barclay*, a record of a voyage to the Pacific, 1834–37, is preserved in the museum of the Old Dartmouth Historical Society at New Bedford. In many ways, this log book is exceptional. Its entries are made with some attention to detail, and the voyage itself was eventful. Its outward appearance is striking, too, being of large dimensions, fifteen inches wide and twenty-three long. Its paper is hand made, roughly ruled with pen and ink, and the limp covers are made from a piece of sail cloth. Like most of the log books of the period, its spelling is quaint, and there is a strange use of capital letters as well as a total lack of punctuation. The first entry, dated September 13, 1834, gives an idea of the writer's style:

The whale hunt — throwing the harpoon. After the style of prints of the period.

"Saturday on board: Now, Lying at anchor, Bedford Harbor below palmers Is 5 fathoms of Water first part of these 24 hours strong Breezes from the N W the weather fine most of the Crew on Board employed Ships Duty mid part light airs from the N W Latt part a fine Breeze from the N at 5 oclock the Pilot come on board Commensed heaving a head at six oclock Broke ground and Bid a Due to the Land We all so much admire but with the hopes of a Short Voyage we set all sail at 9 oclock the pilot left us steered out S W at 11 oclock the wind shifted to the East from that to S E we steering to the S W at 12 oclock to Gayhead light House Bore E 1–2 N Dist 8 Miles the No mans Land Bore E S E — saw number of Vessels steering different Courses so Ends this day with unpleasant Fealings . . . Sweet Home"

Of course, the majority of the passages in this log book are devoid of special interest. Winds, weather, courses and daily routine are recorded faithfully; merely the high lights of the *Barclay's* cruise will be copied here, in the words of the log book writer, but with the spelling and punctuation polished up, in order that the record may not seem like a Chinese puzzle.

"Monday, Oct. 6th. Commenced with fine weather and light winds from the south; we, with all sail set. One brig in sight. At 2 o'clock, we lowered our boats to exercise the crew, which was very necessary. At supper, while in the act of sharing the victuals forward, one of the crew began a fight with some of the green hands, it being the third time. We put him in the rigging, not intending to flog him, but his saucy tongue caused him a few stripes with the fore parts of a small codline, after which he acknowledged that he was to blame. We then let him go forward, where he made a number of threats. This promising youth's name is Bradford Trafford. Middle part, light airs from the south, with the blacksmith very saucy, he being the worse for rum. Latter part, calms. Lowered the boats and chased grampuses for whales.

"Tuesday, Oct. 7th. All hands employed fitting the rigging. The mizzen topmast backstays parted, and we found them to be rotten, which corresponds with the running rigging. We fitted new ones and damned the riggers for it. We now have rove one-half of our running rigging that is in the ship.

"Wednesday, Oct. 8th. . . . A bad sea. One watch below, the rest employed in domestic duty. Nothing to be seen but the wide ocean. Our old rigging parts very often — it is not otherwise to be expected. So ends this long and dismal day in hopes of a fair wind.

"Sunday, Oct. 26th. . . . Latter part, steady breezes; the weather fine. Got up our potatoes and found them two-thirds rotten.

"Thursday, Dec. 18th. Begins with strong winds and heavy squalls from the S.W. Double-reefed topsails set. Some hail. One watch employed securing the boats. At 4 o'clock, wore ship to the west. Middle part, heavy winds from the south and S.W. Latter part, at 5 o'clock, wore ship to the S.E. Nothing in sight nor hearing but the howling winds. Thus ends this long day."

Towards the first of the year, the *Barclay* rounded the Horn. Her days were spent quietly enough. Hardly a whale was sighted; just one was captured during this first part of her voyage, and that one only gave her 30 barrels of oil. It seemed like a real hard-luck voyage. The *Barclay* anchored in the harbor of Callao in February, 1835; before the vessel put to sea again, six men had deserted. Perhaps they became soldiers of fortune, for the log mentions that there was "a revolution on shore." On February 28th is this entry: "Put the runaways' things up at auction, and sold them to the highest bidder." From Callao, the ship cruised slowly toward the Galapagos Islands.

"Wednesday, April 1st. . . . Nothing but ships in sight. . . . We have not seen the spout of a sperm whale this side of the land.

"Saturday, April 4th. . . . Set all sail to get clear of these islands, being well satisfied that there are no whales here, and now we are all sail for the Western Ground. Five ships in sight.

"Sunday, April 12th. . . . No whales yet.

"Friday, April 17th. . . . At 3 o'clock we saw a shoal of sperm whales a-going to the windward quick. Lowered the boats and chased them till sunset, and then came on board, down in the mouth. Thus we saw whales for the first time this side of the land, and got none. Is this not hard for the poor? Middle part, lay with the maintopsail to the mast. Latter part, steered S.W. at 9 o'clock, saw two ships ahead, and ran for one of them, a-cutting. At 12 o'clock, saw a whale breach to the leeward of them, and ran for it. Thus ends this day."

"Saturday, April 18th. These 24 hours begin with strong breezes from the S.E. at 1 o'clock, saw a shoal of whales close to one of said ships. Their boats struck and got one. We chased the rest to leeward. At sunset, we gave up the chase."

Though the ship *Barclay* was doomed to rough treat-

ment at the hands of fate, yet twice towards the first of May she captured a whale, and consequently twice, at this time, the crude impression of a picture of a whale appears stamped on the log book pages. But the following is the usual luck of the *Barclay:*

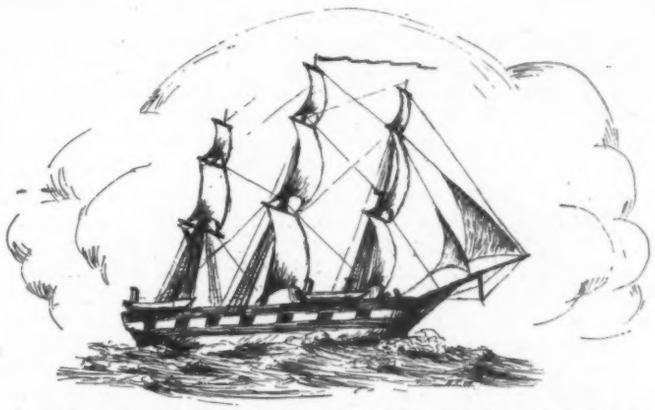
"Friday, May 15th. Whales and ships. This day begins with strong breezes at S.E. Three ships in sight, one off the lee beam, to work among whales. We ran for her. She struck one, and, after being to him two hours, lost him. We took an active part in chasing him, but in vain.

"Thursday, May 21st. . . . Latter part, at 6 o'clock, saw whales. Lowered the boats and struck a large one. He sounded and took the line. We struck him again, and the iron broke. We saw a ship at the time. Thus ends, with the boats in chase of the said whale, he having one line and four irons attached to him.

"Friday, May 22nd. Begins with fine weather and strong breezes at S.E., the boats in chase of the said whale. At 2 o'clock, we struck him again, but drawed the irons. In hauling them in we saved one of the lines. The boats got nearly on several times afterwards. At dark we gave him up with the loss of one line and five irons."

And again, later, at the Galapagos Islands:

"Monday, July 13th. Begins with fine weather and light winds; we, cruising for whales S.W. of Charles Island from 10 to 30 miles distant. Saw whales and chased them. Saw a ship to the south chasing whales. Middle part, light breezes from the N.E. Latter part, more whales. Again chased them. We now have seen whales five days running, and lowered our boats nine times, and got nothing. Thus ends this day."



A whaler outward bound, in the style of drawings in a whaler's log.

There was much hard feeling and dissatisfaction on board the *Barclay*, some of it doubtlessly due to the lack of oil. At Charles Island, there was another wave of desertion, but this time the runaways were caught, and the ringleader put in irons. From the Galapagos group, the course of the *Barclay* was to the westward, and in November the ship was cruising about the Society Islands.

"Sunday, Nov. 14th. . . . At 2 o'clock, saw Point Venus bearing S. by W. ½ W., distant 12 miles. At 5 o'clock, took the pilot. At 6, came to anchor in the harbor of Otaheite in ten fathoms of water. Middle part, calms. Latter part, most of the crew on shore on liberty. At 9 o'clock, the *Ann* got in here. We found the bark *Washington*, of Hudson, with 500 bbls., 17 months out.

"Monday, Nov. 16th. . . . The liberty men came off all sober, for the want of rum.

"Sunday, Nov. 22nd. . . . Middle part, calms. Betwixt 8 and 9 o'clock, while the captain was out of the ship, the third mate took the boat from alongside without liberty and went on shore, taking with him all his clothing, and one of the crew by the name of George W. Crocker. This is not unexpected, for it has long been talked of by the third mate. Latter part, the winds light. One watch on liberty. Sent the natives in search of the said deserters. Thus ends this day, and no tidings of them, and I hope there never will be again of the third mate."

There were two more desertions while the *Barclay* lay in Otaheite Harbor, and sailing was consequently delayed. The runaways were not caught, and the captain busied himself shipping new men to fill out his crew.

"Saturday, Nov. 28th. Begins with fine weather and light winds from the eastward. At 4 o'clock, the captain came off with two more men, natives of the island, whom he shipped at $10 a month. We now steered out to the north.

"Saturday, Dec. 5th. Begins with fine weather and strong breezes from the east; we, with all sail, steering for Hervey Island. At 1 o'clock, went in with one boat and met with one canoe by the natives. We found there were no hogs to be got on the island. At 4 o'clock left for Aitutaki. Steered W. by N. Middle part, at 9 o'clock, hove to with the headyard aback. Latter part, at 8 o'clock, passed down the north side of the island. The captain went on shore for hogs. Found the natives very friendly and a-keeping this day for Sunday. For this reason, we got nothing. Thus ends, with the boats on shore.

"Sunday, Dec. 6th. . . . Laying off and on . . . . Latter part, the boat brought off a load of hogs and fowl. Went ashore again. Thus ends, with the ship full of natives from the shore."

The early months of 1836 the *Barclay* spent cruising about the South Sea Islands. At a few places, the ship lay in the harbors for brief spaces of time in order to get fresh food or water. But there was no chance for shore liberty for the men; apparently the captain was apprehensive of more desertions. Varying success met the frequent lowerings after whales. And in April, the *Barclay* had returned to the neighborhood of the Galapagos Islands once more, a favorite whaling ground during the eighteen-thirties.

"Friday, April 29th, 1836. Notice this. This day begins with strong breezes from the E. N. E. We, steering to the S. E. with all sail set. Nothing in sight. . . . Middle part, winds at S. E. Steered up E. N. E. Latter part, much the same. At 8 o'clock, the captain sent the steward forward to call the men aft, or one of them, to see their meat weighed. But their reply was that they would not come. This was told the captain. He immediately called to them to come aft, and repeated three times, and then went after them, and took a broom at one of the blacks. The men all refused to go aft, but soon went. Their complaint was that one pound and a quarter of meat was not enough. They were very insolent and made their threats. They now went forward, not wishing to see their weight of meat. The said black was insolent to the captain when going forward. He was called to come aft again. His reply was that he would not, and he fled for the forecastle. While getting him up aft, one of the men, Henry Ketcham, came to the gangway and interfered. He challenged the captain to strike him. At this, the captain took hold of him and dropped his weapon. The fellow took it up and made an attempt to strike the captain with it. From this, he was told to go aft, but refused and went down the forecastle, took a sheath knife and said he would kill the first man that went down. But afterwards he delivered himself up to be put in irons, where he now remains in the run. Thus ends in peace."

In June, the *Barclay* anchored in the harbor of Payta. And here the customary thing — that is, customary for

this voyage — happened. Seven men deserted and were not heard of again. In addition to this loss, the captain discharged three trouble makers, one of whom was the Ketcham who had struck at the captain. Ten new men were shipped to fill the vacant places, and the *Barclay* left Payta "with a new crew mostly."

Again the *Barclay* visited the Galapagos group, stopping at one of the islands for potatoes and pumpkins which were cheaper there than on the mainland. Capturing a whale was a rare occurrence, and once, when the ship *Isaac Howland* was sighted, the log book writer records that she was boiling a large whale, "the only one, in my opinion, that was on the coast." There must have been more trouble on the ship, though nothing of unusual interest is recorded during this period. Only a suggestion appears at the end of an ordinary day's entry: "Thus ends a day never to be forgotten." What happened during this memorable day is a mystery.

In December the captain decided to stop at Tacames, in Ecuador. He had difficulty in navigating his course, for on the 16th it is written, "Spoke a Spanish schooner that told us where Tacames was." And in Tacames, too, the crew was severely depleted. Seven men deserted; that is, "they stopped ashore and said they would not come aboard." It was impossible to find new men at this town, apparently, for the *Barclay* went immediately to Payta. Here three men were discharged: "We paid them off their oil."

"Thursday, Jan. 26th, 1837. . . . Got under way and went to sea (from Payta) with 20 men. . . . We are now bound to the Western Ground with 20 men only, and three of them cannot speak one word of English, to speak within bounds. We now have the poorest crew that I ever saw on board of any ship. Some objections were made to taking the anchor with 19 men. In consequence, one more was shipped, which detained the ship two hours. All of these new men are by the month. Thus ends; chains and anchors stowed.

"Thursday, Feb. 2nd. . . . Employed wetting the hold, finding the oil to leak very bad. This has been the case for three months.

"Friday, Feb. 3rd. . . . Wet the hold again. Thus ends this day, like many of the rest. Dull prospects all round.

"Saturday, Feb. the 11th. . . . We employed all hands in getting ready for coopering our oil. We moved the cook's caboose forward. . . . At daylight, commenced hoisting up oil out of the main hatchway for coopering, the ship under double-reefed topsails heading to the N. E. Thus ends, with 100 bbls. of oil on deck.

"Thursday, Feb. 16th. . . . Finished coopering. Found the leakage to be 25 bbls.

"Sunday, April 2nd. These 24 hours begin with strong winds and heavy squalls of wind and rain. All sail set excepting the fore topgallantsail and flying jibs. Winds from the S. E. We, steering to the N. E. At 7 o'clock, the weather looked black and squally. At 8 o'clock, the squall struck the ship heavy, all sail out at the time and one boat's crew on deck, which let go everything. Called all hands and commenced taking sail. Split the fore and mizzen topsails. Middle part, at 11 o'clock, got the ship under double-reefed maintopsail and closed-reefed fore. Took in the mizzen. Latter part, more moderate. At 6, saw whales off the weather beam, going to windward. Having no fore topsail to set, we were not able to pursue them. At 8, sent down the topsail to mend. Thus ends, all hands employed on the sail."

The *Barclay* was now ready to make her homeward passage. The port of Talcahuana was her last stopping place in the Pacific, and here men were discharged, others shipped, and one deserted. Hard luck and trouble still attended the ship, even after Cape Horn had been passed and the vessel was sailing northward with all possible speed.

"Sept. 2nd, and long will it be remembered by me. . . . The day ends with much disturbance, and no particular cause for it. At present I shall say no more on the subject.

"Friday, Sept. 8th. . . . Unbent the mizzen topsail to mend. After quarreling a half hour, we commenced mending of it. In this quarrel, I was shamefully abused both in words and deeds by the captain without any provocation. . . . Latter part, squalls from all points of the compass, accompanied with rain and thunder and lightning. Thus ends another long, disagreeable day, like many others.

"Saturday, Sept 12. Begins with a heavy gale from the E. N. E. and from the N. N. E. Bent the main staysail. At 1 o'clock the main topsail sheet parted before it could be taken in. It blew clear of the yard. At 2, the larboard boat went. At 3 o'clock, the wind blew a hurricane. At 4, the main topgallant mast blew off above the main topmast cap. The fore and mizzen followed shortly afterwards. The flying jib blew clear of the boom. The fore and mizzen topsails blew very much to pieces in defiance of our exertions to prevent them. Middle part, the flying jibboom blew short off with the cap. At 9 o'clock, the wind moderated some and it stopped raining for the first time since the gale. Latter part, a common gale of wind. Thus ends, lying to under no sail, and a complete wreck. The two remaining boats are stove.

"Sunday, Sept. 13th. Heavy gale of wind from N. N. W. and a bad sea on. We are lying to with no sail set, heading to the S.W. Nothing to be seen. At 5 o'clock, hove the try works overboard. Middle part, heavy rains. Latter parts, much the same. Thus ends with a heavy gale.

"Monday, Sept. 14th. It still continues to blow a heavy gale from the west, and heavy rain and a bad sea on. At 5, set the main staysail. Middle part, much the same. Latter part, at 4, the gale abated. At daylight, saw a schooner, steering to the north. At 7, all hands commenced repairing sails and rigging. Set the fore and mainsails and jib, the only sails that were whole. The middle part of these 24 hours the ship sprung a leak in the run, about three feet below the surface of the water. The ship is now leaking about 240 strokes an hour. Thus ends. No topsails set yet.

"Tuesday, Sept. 19th. Commenced with light breezes, the weather fine. At 6, got the topsails finished and set all sails that were any use. Shifted all of the iron hoops from the steerage into the fore hold, to tip the ship by the head. . . . Thus ends with the ship leaking very bad."

A week after this damaging storm, the *Barclay* limped into her home waters of Buzzards Bay, a sorry sight. And her troubles were even now not over, for one of her crew died of consumption in sight of the harbor and was buried at sea. Finally comes the last entry in the log book:

"Wednesday, Sept. 27th. Begins with strong breezes from the S.W. At 1 o'clock, passed the lighthouse. At 2, came to anchor in the inner roads, and furled the sails. Thus ends a voyage that has been full of errors from the beginning to the end."

The Rating Classes on the Atlantic Coast

Many New Boats Building and Great Activity Present — New England Coast Yachting Plans

By WILLIAM UPHAM SWAN

THE two classes of rating yachts, the only ones in the country, outside of the big schooners, in which naval architects now find active competition in form and structural ideas, will be augmented next season by 12 new boats — four 25-raters, or Class Q, and eight 20-raters, or Class R, while three other boats of the latter class which were finished late last season have yet to make their yachting debuts.

While the feature of the new rating classes will be their extreme length, interest will center to a considerable extent in the new sail plan of Charles A. Welch's *Yankee* over her web frame hull and the adoption of the structural ideas of her designer, L. Francis Herreshoff, by Burgess, Swasey and Paine in the plans and specifications for the new boat for Charles Francis Adams.

Application for a patent for the sail plan for the *Yankee* has been made and may be described later. Her web frame construction, however, is available and is worthy of consideration. The basic principle, of course, is not new, having been used in canoe construction half a century ago, and later by Mr. Herreshoff's talented father, Nathaniel G. Herreshoff, in the building of the *Constitution*, *Reliance* and *Resolute*. The younger Herreshoff, however, has gone a step farther by adapting his father's ideas in the steel and bronze cup defenders to a wooden boat.

Class R Boat, *Yankee*, owned by Charles A. Welch of Boston, one of the most successful of last year's Rs.

Some naval architects claim that web frames restrict the so-called cabin accommodations, and are a technical violation of the rule; but the *Yankee* was passed by measurers of three yacht clubs last year and wound up her first season by capturing the Manhasset Cup and winning a tie for the Greenwich Cup against the entire Long Island Sound fleet, after *Doress* was disqualified, while she was the only boat in the series for the Eastern Yacht Club Ladies Plate for Class R boats to defeat the *Dandelion*, which subsequently won the championship in a squadron of 13 starters.

The advantages of the web frame, according to young Herreshoff, are rigidity, longevity, economy and lightness above the waterline. The construction in general consists of white oak web frames, 8 inches deep in their moulded dimensions. Some of the frames at the bow and stern are continuous around the planking and deck of the boat, forming an arch of unusual strength. The frames are set up as moulds, with longitudinals or battens, as in a steam bent frame boat, but they remain a part of the boat and greatly increase her strength and give long life to her form. Up to this point the cost of the two methods of construction is practically the same, but instead of throwing away the battens, the planking, both inside and out, goes on over them. The inner planking of the *Yankee* is laid diagonally over the battens, while the outside skin runs fore and aft in the usual way, being held both by waterproof glue and also by the usual screws from both inside and out.

The *Yankee* has no wooden keel, her stem running straight down to the lead with the rabbet for the planking cast in the bulb. This same method is applied to the deadwood aft. According to the designer, this does away with the shrinking and swelling of the wooden keel which take place in many boats and cause leaks and the loosening of the keel bolts. Francis Herreshoff does not claim any particular originality in the design of the *Yankee*, but says that he adopted many of the ideas used in other boats and in engineering practice. He gives full credit to the owner for supporting the application of these ideas, and the builder, Britt Brothers of West Lynn, in carrying them out so carefully and turning out a boat full of what might be called "Yankee tricks."

The 25-raters will have most of their racing at Marblehead, where half a dozen of the older boats will be in commission. Several of them, however, will join the squadron runs of the Eastern and New York Yacht Club fleets, in which they will be eligible for all the trophies except the King's Cup. Last year the *Leonore*, *Nor'easter* and *Sou'easter* were on the Eastern Yacht Club cruise and made a good showing against the Forties, while the *Spindrift*, formerly the *Grayling*, owned by Joseph V. Santry, joined the New York Yacht Club fleet in Buzzards Bay and won the Rear Commodore's Cup for single stickers against a field of two Fifties, six Forties and five Thirties. Commodore Santry would have gone on to Newport for the Astor Cup race had he not been compelled by business to return to Marblehead.

The list of the 15 new boats that will be out is as follows:

25-RATERS — CLASS Q

Owner	*Designer*	*Builder*
E. M. and J. M. Abbott	Burgess, Swasey & Paine	Herreshoff Mfg. Co.
B. Devereux Barker	Burgess, Swasey & Paine	F. D. Lawley Co.
H. L. Bowden	Burgess, Swasey & Paine	F. D. Lawley Co.
Grafton Smith	J. G. Alden	Geo. Lawley & Son Corp.

20-RATERS — CLASS R

C. F. Adams	Burgess, Swasey & Paine	Geo. Lawley & Son Corp.
Sydney A. Beggs	Burgess, Swasey & Paine	Geo. Lawley & Son Corp.
Donal M. Cowl	C. D. Mower	H. B. Nevin
C. H. W. Foster	J. Anker	Anker & Jenson
Robert B. Meyer	H. J. Gielow, Inc.	Geo. Lawley & Son Corp.
Joseph J. Moebs	Burgess, Swasey & Paine	Abeking & Rasmussen
Junius S. Morgan, Jr.	Herreshoff	Herreshoff Mfg. Co.
Dr. Morton Prince	Burgess, Swasey & Paine	Abeking & Rasmussen

UNRACED IN 1925

H. Hitt and R. Mallory	J. G. Alden	Abeking & Rassmusen
J. G. Alden	J. G. Alden	Abeking & Rassmusen
* C. H. W. Foster	Burgess, Swasey & Paine	Thornycroft Scan.

* Rigged as a schooner

The dining room of *Pawnee* is an excellent example of how simplicity in furniture and decoration can make for attractiveness.

Pawnee, a Diesel Off-Shore Cruiser

Photographs by M. ROSENFELD

HEREWITH we present the first photographs taken of another handsome addition to the fast-growing fleet of Diesel-engined yachts which has just been completed by the Newport News Shipbuilding & Dry Dock Co. *Pawnee* was designed for Mr. Harry Payne Bingham, of the New York Yacht Club, by Cox & Stevens, naval architects, and is built and equipped to afford the maximum amount of comfort for owner and guests on extended ocean cruises.

The essential features of the design have been carefully worked out, so that in all respects she will be an exceptionally seaworthy craft. Ample beam and heavy displacement were adopted for the sake of comfort in rough going. The hull is ruggedly built of steel, and is topped with steel bulwarks and deckhouses. Decks and deck fittings are of teak.

Five staterooms and four bath rooms for the owner's party are on the berth deck, while on the main deck are dining saloon, living room, galley, pantry, etc. Also on this deck are two rooms fitted as a taxidermist's room and laboratory, Mr. Bingham being deeply interested in deep sea exploration work. Officers and crew are comfortably quartered in a double forecastle forward.

Pawnee is powered with two Winton Diesel engines developing a total of 900 h.p., giving a cruising speed of 13 knots. Her mechanical equipment is up-to-date and most complete, and includes oil-driven electric generators and batteries, electrically-driven pumps for plumbing, fire fighting, and general ship use, electric capstan, winches, and boat hoists, hot water heating system, forced draft ventilation, etc. Her dimensions are: l.o.a., 160 ft; l.w.l., 151 ft; beam, 26 ft., 6 in.; draft, 11 ft.

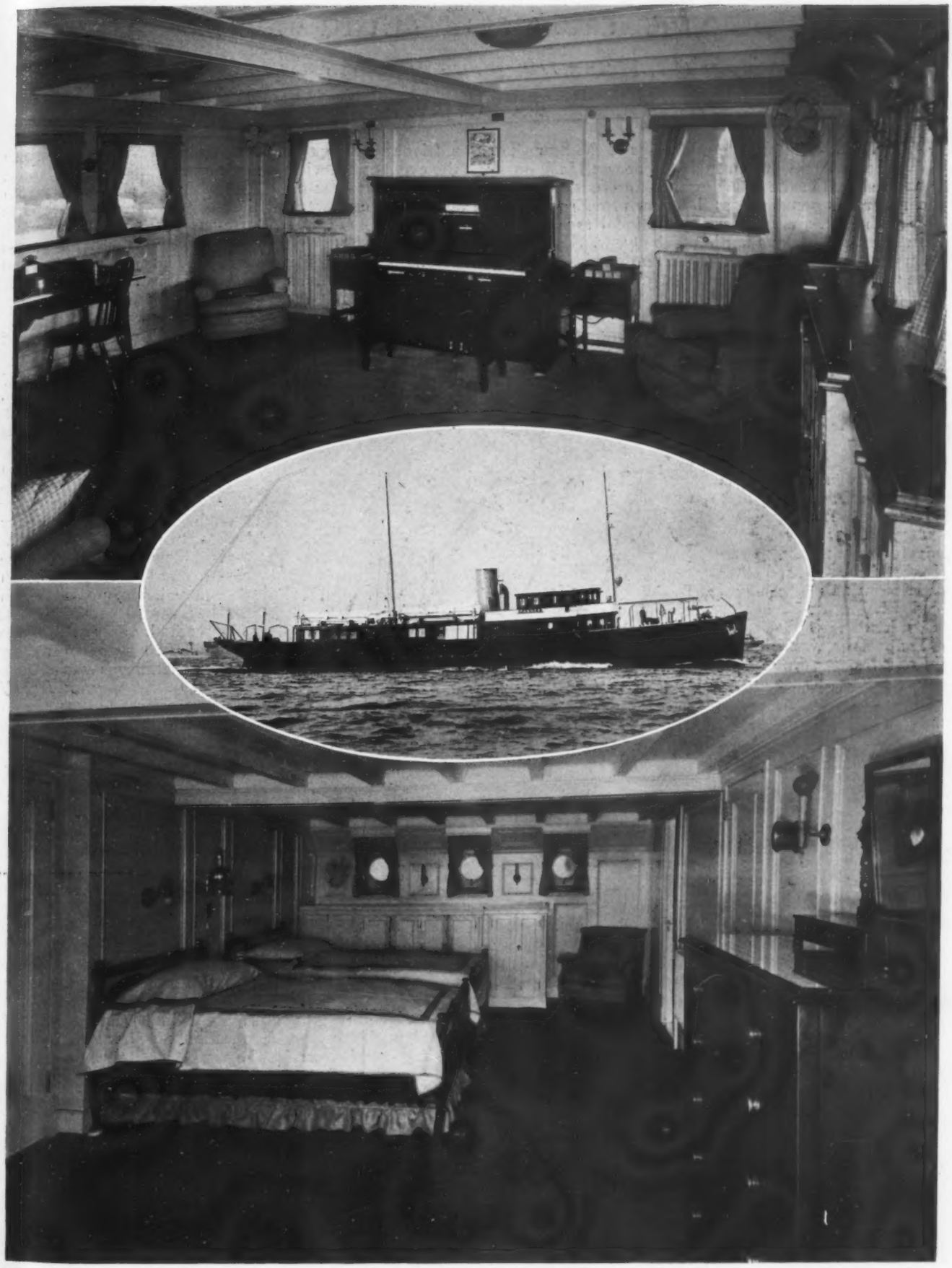
Unusually large bunker space is provided for fuel and the stowage space for stores of every description is large and well arranged.

The equipment of small boats includes a 25-foot owner's launch, a 25-foot fishing launch and a 21-foot crew's launch, each having a Kermath motor for power, a lifeboat with sails and a 14-foot dinghy.

A continuous shade deck is provided, also of teak, giving in addition to the wide space on the main deck and aft, an unusual amount of clear deck for use by the owner and his guests.

Forward of the stack, on the bridge deck, is a deckhouse containing, at the forward end, pilot house and chart room, and at the after end the captain's deck stateroom and bath.

The yacht is equipped with an efficient wireless outfit, quarters for the wireless operator and equipment being provided on the main deck.



The owner's stateroom of the *Pawnee*, a yacht for off-shore cruising. Top—The living room of the *Pawnee*. Simplicity in furnishings and decorations is the keynote. Center—The new Diesel yacht *Pawnee*, recently completed for Harry Payne Bingham from designs by Cox & Stevens. She is 160 feet in length.

American Stars Win in Cuba

Take Team Race By 39 to 15. "Irex III" Wins Mid-Winter Trophy for Western L. I. Sound

By G. W. ELDER

THE Mid-Winter Championships of the Star Class, held at Havana during the last week in January, ushered in the 1926 season of international yacht racing for this popular class that now provides its members with inter-sectional or international racing, somewhere, nearly every month of the year. Seven fleets from the United States and Cuba sent entries to participate in this event, which is to become an annual fixture and already ranks second in importance to the international series of the class.

This year there were two feature events at Havana — an international team race for the Trofeo Bacardi, presented by Mr. F. Bacardi, in which a quintet of U. S. Stars met the five best stars in Cuba, both teams being selected by district secretaries in each country, and a series for the Mid-Winter Challenge Trophy of Cuba, a perpetual trophy worth several thousand dollars, presented by the Cuban Government. The entries in the series were restricted to one from each organized Star fleet. The races were under the auspices of the I. S. C. Y. R. A. and the National Tourist Commission of Cuba. Handsome daily prizes were presented by the Government. Nothing was left undone for the convenience and pleasure of the visitors. Special rates were arranged for the transportation of the yachts. They passed through the customs without cost or delay. Shipyards and workmen were provided for the boats as well as accommodations at the Club for the crews. Star Class members from the States, used to nominal prizes and having to shift for themselves, were overwhelmed by the welcome they received and the elaborate preparations made in their honor. It is a relief to find at least one country in the world where the government actually goes out of its way and makes appropriations to encourage the sport.

The races were held in the open ocean off the Malecon, a driveway along the water front of Havana, from which the events were witnessed by crowds that lined the long sea wall and from parked automobiles. On January 25th and 26th there were preliminary open races. Both were won by *Irex III*, E. A. Ratsey, of W. Long Island Sound. William Inslee, sailing *Sonny* from Gravesend Bay, was second in both, while *Maia II* of Central L. I. Sound and *Jane* of New Orleans each took a third.

The U. S. Star Class team at Havana. Skippers (standing) F. T. Bedford, E. A. Ratsey, James Hayward, G. W. Elder, Wm. Inslee. Crew (seated) W. Starring, George Ratsey, P. Donnes, P. E. Edrington, A. C. Webb.

The Team Race

On January 28th a team of five American built and manned Stars met and defeated an All-Cuban quintet by a score of 39 to 15. The race was sailed over the regular triangular course off the Malecon, three times around, totaling 10 miles. Commodore G. A. Corry, acting chairman of the Regatta Committee, sent the ten yachts off on a beat towards Morro Castle. The wind was light, but there was a heavy sea from the norther that had blown for two days. The *Aurrera II* and *Siboney*, both Cuban boats, crossed first on the leeward end of the line covered by *Iscyra*. *Maia*, to windward was covered by the Cienfuegos yacht *Guincho*. *Jane*, *Sonny* and *Irex III* were clear and soon, in the order named, worked into the lead. The other two Cuban entries were behind.

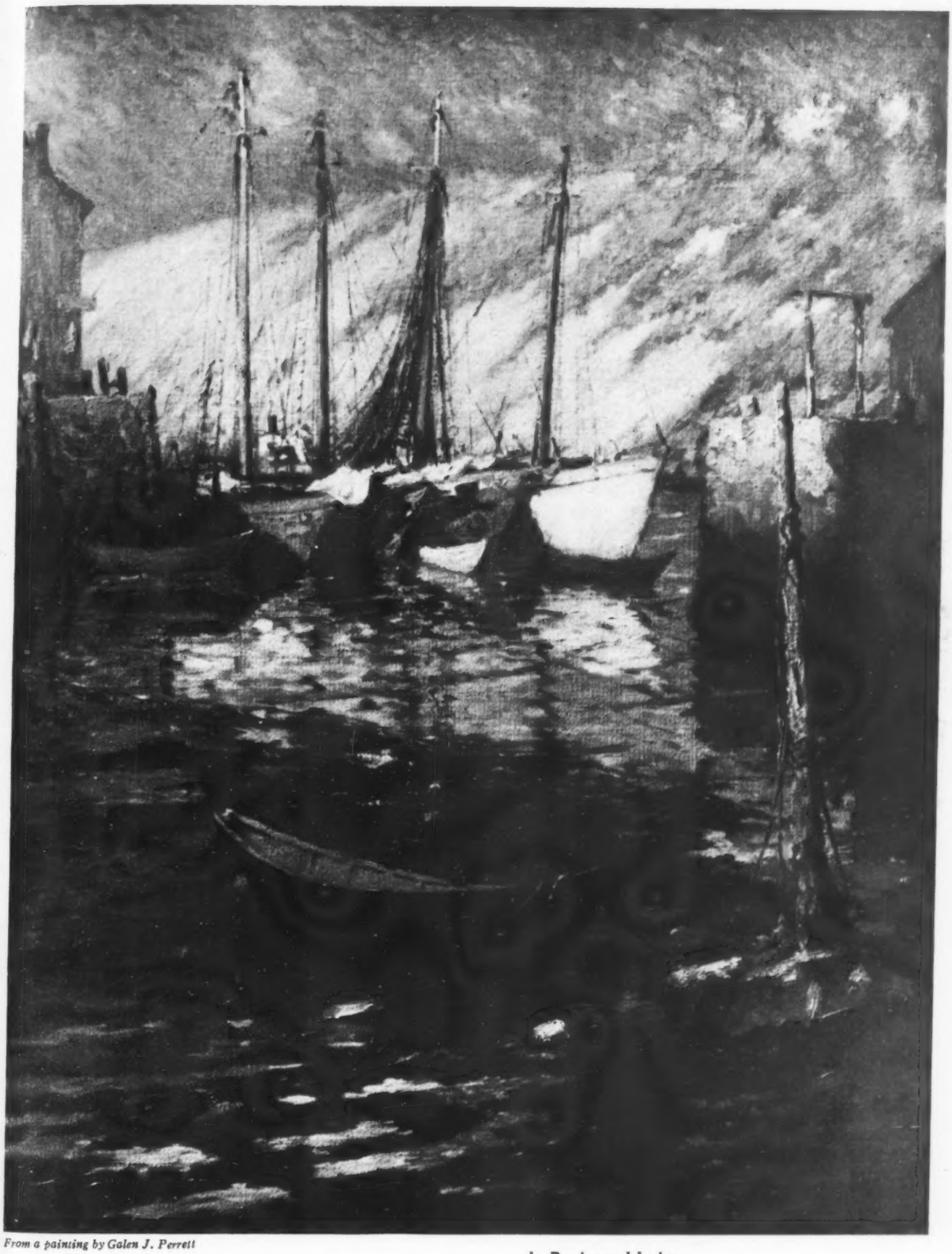
The Cubans held their places well on that beat and there was some spirited competition to the first mark. The five American yachts reached it first. *Jane* parted a shroud on the jibe but repaired it later. *Sonny* was next, then *Irex*, *Iscyra*, and *Maia*. Two Cubans were forced on the wrong side of the mark which caused some trouble, as the skippers just rounding had to give way to avoid the Cubans. In the mixup *Aurrera* and *Guincho* passed *Iscyra* and *Maia*. *Jane*, *Sonny* and *Irex* were clear and opened up a big lead. These three were never threatened but it became a question of whether *Maia* and *Iscyra* could overtake the two Cubans or not.

The results follow:

Start, 10:45 A.M. Course, Triangle 10 miles, wind, N. E.

	Yacht	*Skipper*	*Club*	*Fleet*	*Finish*	*Pts*
U. S.	*Jane*	Hayward	Southern	New Orleans	12:58:17	10
U. S.	*Sonny*	Inslee	Marine & Field	Gravesend	12:58:35	9
U. S.	*Irex III*	Ratsey	Larchmont	W. L. I. S.	12:59:23	8
U. S.	*Maia II*	Bedford	Pequot	C. L. I. S.	1:00:50	7
C.	*Aurrera*	De Sena	Fortuna	F. de H.	1:01:58	6
U. S.	*Iscyra*	Elder	Manhasset Bay	W. L. I. S.	1:03:00	5
C.	*Siboney*	Pons	Vedado T. C.	F. de H.	1:05:38	4
C.	"*F*"	Washington	Vedado T. C.	F. de H.	1:06:30	3
C.	*Guincho*	Silva	Cienfuegos	Cienfuegos	1:06:45	2
C.	*Gavilan*	Gorrin	Habana	F. de H.	withdrew	0

(*Continued on page 106*)



From a painting by Galen J. Perrett

In Rockport Harbor.
The fishing fleet tied up in the little rock-bound haven on the tip end of Cape Ann.

On the Beach, Easthampton.
Flotsam and jetsam cast up by the sea on the long stretch of sand that runs from Montauk to Norton's Point.

From a drawing by Mrs. J. J. Tapley.

"On the step" at St. John, N. B., getting into the air for the foggy trip up the Bay of Fundy.

Through Fundy's Fog

Being Notes from an Aviator's Log on a Coasting Cruise from Manhasset Bay to Pictou

By MORROW KRUM

AUGUST 1st — Ah, a broad road of adventure, a robust highway that has rarely been flown, and never by me, stretches out ahead. I can see the far reaches of the feather-flecked ocean, the frowns of the salt-splashed shore, the mists of the racing clouds, billowing beneath the bow and grasping weirdly at the wing tips. . . .

A newspaper is to be served. The beat, the scoop, must be accomplished. This is no heritage from Greeley. His estate lives beneath the masthead on the editorial pages. Each year it dwindles. It was Medill, the mid-western scribe, who first discovered the value of free spending. But even Medill might gasp today.

Smith, Wade, and Nelson are to land at Ice Tickle. When their Liberty motors cease to throb and the world cruisers glide down to the waters of Labrador they will have finished the worst of their assignment. The touching of the American shores will be an epic of the flight. The newspaper demands the first pictures of that landing. Why, I cannot say. At any rate a detailed and intricate program is fashioned. The brunt of the burden rests on the airplane, to which the pictures will be delivered at Pictou, Nova Scotia. From Pictou to Broadway, the last and most important link of the chain, the airplane must carry the photographs. A sturdy task for any aircraft. Man-made flight is reaching maturity. But nature is relentless in her defense.

The immediate goal is Pictou. Boston, Bar Harbor, St. John, the Bay of Fundy, the Gulf of the St. Lawrence stand off the bow. . . .

August 2nd — What a trim ship the *Caroline* is! Her wings are yellow, her bottom green, her body mahogany and red. She is as fragile as a wild rose, as sturdy as a Hudson tug, as fleet as the April wind. A lean stick has replaced the old wheel control. Her rudder bar is aluminum. Her elevator is finely adjusted. There is one slight flaw. Her ailerons, with which she clutches lateral stability, are not balanced. It is her only fault.

The *Caroline's* motor has all of the power of 160 horses and all of the roar and noise of the falls of Montmorency. With a full load and her throttle wide open she will leap out of the water after less than a half-mile run and climb up the invisible stairway of molecules like a shaft released from a sturdy bow. At top speed the *Caroline* flies more than 100 miles an hour and, with the throttle half closed, will swim along at 80. She is vulgar in her noise, but in speed and pleasure of the *haute noblesse*. She rose out of Manhasset Bay this afternoon like a filly at play. I took her out over the Sound and we romped for an hour, turning, gliding, climbing, diving, zooming, swirling over the foam-flecked water. Propinquity set in. Her ailerons and I are friends. Her motor is capable and her performance, wholly perfect for her type, is that of a thoroughbred.

She's trim, neat, swift, and strong. Her genesis would make her so. In her limbs is the best of spruce. Her skin is the finest of Irish linen. Her power is indomitable. The men who made her were expert in their craftsmanship and careful in their work. How often have I thought that men who fly should be as of fine fibre as is found in their craft — many are not — an impersonal note, if you please. . . .

Day after tomorrow the *Caroline* will slip down the runway at Port Washington and roar away towards Pictou.

August 3rd — Harry Baker is going with me. He is the factotum and the generalissimo of the photography department of the newspaper. He has flown before, but never in a flying boat, and is looking forward to a lark. Wait until he tries to break out the ground tackle some cold morning when the water is frigid and the line is new!

Harry is a tranquil soul. It will not hurt his feelings to tell you that he is one of the homeliest men in the world. He is tall, dark, thin. His nose is long and hooked. His hair is black, scant and untrained. But would you have all of your heroes as handsome as Barrymore? And Harry is a hero. I have warned him against the trip. He is planning a vacation. I have told him it is going to be the

Splashing the baby into salt water for the first time. *Caroline* sliding down the runway at Port Washington.

heaviest holiday he has ever spent, but he smiles and insists on going.

Harry is not without ideas. A fortnight ago an ocean liner was bringing pictures from England and it was necessary to obtain the pictures first. Again the scoop! Harry sent word to the courier on board the ship, ordering him to rig up a kite and send the pictures aloft on its tail. Then he shot an airplane out to sea to meet the liner. The pilot flew straight into the kite. The observer grabbed the tail and the pictures were printed in New York before the ocean liner had cleared quarantine. I'm glad Harry is going with me.

August 4th — My young and fervent infatuation for the fragile *Caroline* was sorely tried this afternoon at Port Washington. She failed me once, and then again, when I tried to take her out of the waters of Manhasset Bay. We had a lovers' quarrel and I thought her a faithless trollop, an inconstant jade. Then, just as I was prepared to dismiss her from my mind and seek another companion, she pointed out, quite modestly too, that the fault had been mine and not at all hers. I was chagrined and inarticulate as we finally climbed from the rolling sea and swung out over the Sound. Nor did it temper my vexation to have Harry slap my back in applause of *my* conquest.

When I had flown the *Caroline* before she had been light. I simply lifted her out of the water and we bounced away. But it was another story this afternoon. She was in cargo and heavy with the load. She was equipped with the necessities of a long journey and though I had provided the many implements I dismissed them from my happy mind as we skipped out on the bay for the take-off. There was our baggage, my tools, the anchor and the anchor cables, the riding light, the emergency flares, the can of kerosene, the emergency rations, the crude utensils for camping, a small axe, a bilge pump, a pistol, an oil can, and lastly our heavy clothes and a full tank of gasoline.

When I opened the motor I thought I was at last on the broad highway and in my joy reckoned not with the load. I pushed her nose into the waves and tried to lift her out with a jerk of the stick. She did not come, poor thing, though she tried with all her might. She started to porpoise and I pushed her nose farther forward. It was an indelicate thing to do to the *Caroline*. I tried it again on another run, but she refused me and I thought her a wretched feline. There was more of the porpoising. We bounced around and things seemed black, when suddenly she bounced entirely out of the water. In the instant of flight I caught the fault. I had been holding her stubby nose too far forward. Cautiously, truly ashamed, I eased back on the stick and we gathered speed. In another instant we were flying and Baker was thumping my back.

The Sound, blue and broad, spread out beneath us. Tiny whitecaps flecked its surface and the white sails of yachts glistened in the brilliant sunlight. The strong northeast wind had blown the sky clear and the world was bright. As we flew the beauties below soothed my mind. I made mental apologies to the *Caroline* and set in to enjoy the afternoon.

City Island was trim and neat in the sunlight. I recalled a forced landing off that island a year ago and the "rescue" a party of life savers, out for a picnic, had made . . . their rescue was enthusiastic . . . their disappointment keen when they found my ship would float, even navigate with a limping motor.

Rye was like a garden plot. Thousands of persons were on the broad beach. Another flying boat, much like the *Caroline*, rose from the shore as we passed. The ship nodded a pert salute, which I answered with a sharp dive and a "zoom." The other fellow was beach hopping, a lucrative labor on bright warm days.

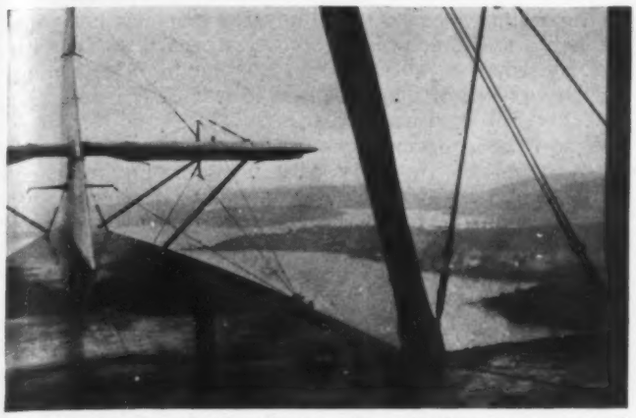
The beauty of the ocean casts its spell over us. Baker's eyes are dancing behind the flying goggles and his wide mouth spreads into a broad smile every time our glances meet. My confusion fades as we sweep through the air. The joy of flying wafts my spirits upward. How important we are, sitting there in the cockpit. How small and meaningless are those myriads of men and women on the beaches a thousand feet below. How weak and harmless are the waves flying over the blue water. They can do us no harm — as long as the motor continues its even thunder.

My eyes sweep the instruments. All is well. I glance at the fuel gauge. We will not make Boston with our present supply. The strong head wind has cut our speed. I study the maps that flutter in my right hand. Newport offers a sheltered reach for a landing — there will be gasoline there — we'll stop at the *beau monde's* summer playground.

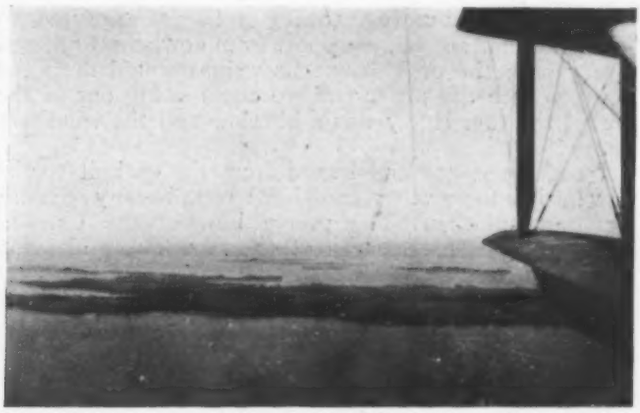
Far below I see a pile of rocks, a tiny island on the Sound. There is a slender strip of beach — a red canoe lies on the sand. Ah, it is Mildred's island — why hadn't I thought of it before?

Mildred lives in the Bronx. Her husband sells bonds and has no imagination. On Sunday he plays golf, rather well, too, I'm told. If he spent more time caressing

The crew of the *Caroline*. Harry Baker (at left) and Morrow Krum, the skipper on her long cruise.



One glances astern continually to make a check on struts, control wires, etc.



Grand Manan, where the maker of fog resides. Ask any North Atlantic coast fisherman.

Mildred and less trudging over the turf of a golf course his wife would be happier, but that is another story. Mildred is a golf widow.

One day she took some money down to Wanamaker's and bought a canoe. She ordered it shipped to a little town on the Sound and after a week or two of searching, Mildred found the island she wanted. She takes Arlen, Anderson, Hergesheimer, Howells, Jeffry Farnol — for his blood perhaps — out there in these days of her widowhood. She swims and reads and builds a small fire and fries bacon. When there are guests on her island, Mildred wears a bathing suit.

The brown rocks are purple in the deep sunlight. I ease the throttle and push the stick forward. Gently we float down. Was ever anything more beautiful than the feminine figure? The question rises in my mind as I see her standing, arms outstretched, on the top of the rocks. Her deep brown hair flies in the wind. She is drinking the salt air. The murmur of the idled motor reaches her ears. She turns and sees the *Caroline* swooping towards her. She springs to the edge of the rock and leaps outward. Her arms are again outstretched. That is Mildred. Even in a moment of fright, a moment when, more than anything in the world, she wants cover for her loveliness, Mildred makes a perfect dive. Her hands cleave the water and she disappears beneath with hardly a splash.

As she rises to the surface the *Caroline* is close to the water and I open the throttle and end the glide. We sweep past the bather, barely ten feet above her head. I catch the surprise in her wide eyes, then the recognition. One brown arm leaps out of the water, beckoning me to return, to land, to linger on her island. Then we are gone. Mildred would play Circe. The rocks of her island would wreck the *Caroline* on a day like this. Only in a dead calm would I risk her fragile hull — not even for a moment with Mildred. No, Lorelei, fair naiad, not today will I endanger the dainty *Caroline*.

New Haven and its campus swing underneath. New London, where Arnold belabored the hardy colonists with British bullets, slips past. In the distance is Narragansett Bay. I open the motor wide and we shoot over Point Judith, across the islands, and are within gliding distance of Newport. Against the quays I see a red sign. Gasoline is there. I close the throttle and *Caroline* settles down to the water. She doesn't land. She merges with the water and comes to rest at an untenanted buoy. A boatman brings fuel and in half an hour we proceed.

There is plenty of gasoline now. We fly over the bay. I salute the destroyers at anchor. At the far end of the little fleet is the *Patoka*, floating mooring mast for the *Shenandoah*. Here I open and close the throttle quickly, three blasts and two toots, and the sailors line the rail.

Then we swing out over the sea again.

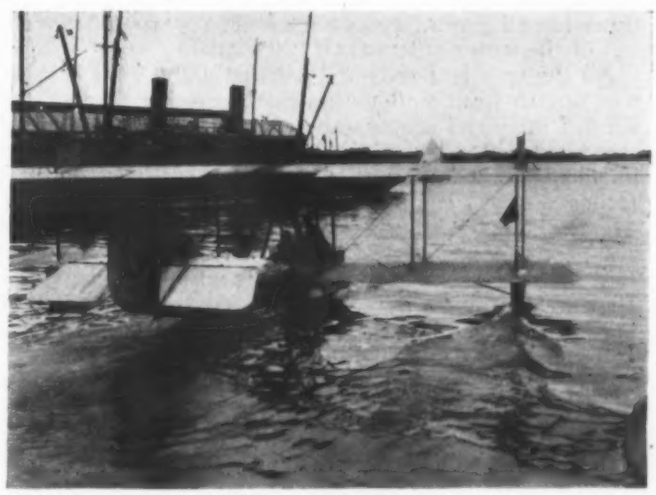
We're playing now, loafing, taking in the sights. Far in the distance, off the starboard beam, looms Martha's Vineyard. It is purple in the slanting rays of the dwindling sun. The Cape Cod canal is a thin streak of silver across the land. It's like a trench in Flanders. I ascend to 3,000 feet to cross the land. I can see the Cape stretching out to sea and swinging northward.

We swing to the left, towards Boston. The sun is dropping fast now. It is blood red, the embers of a dying fire. It falls out of the sky. Few visions are more beautiful than a sunset viewed from the air. The coast line turns brown, then purple. The splashing waves are gray in the shadows. A faint haze covers the land. The western sky is tinted with the delicate sheen of a periwinkle. Boston swims beneath the bow.

August 5th. — Again I have been the careless escort. *Caroline's* pretty bow was stove in this morning. I'll take the blame, though a heavy wind and poor Harry Baker might be named as assessories before the fact.

It was a fair wind that whipped the harbor as we taxied across from the Jeffery Yacht Club to the gasoline barges. It was a strong wind, a wind that would add 25 miles an hour to the *Caroline's* speed and we were anxious to be away. The gas tanks were filled quickly and we fidgeted on the barge as we puffed a last cigarette. We hoped to make Bar Harbor by evening.

Tossing our cigarettes into the bay we climbed aboard, cast off our lines and started across the bay to take off into the wind. The wind pushed us swiftly across the



The *Caroline* steaming to a mooring at Pictou, the end of her northward journey.

water. Suddenly a tug, towing a barge, appeared to starboard. She seemed to appear from nowhere. I ordered Harry onto the port wing. His weight would drop the pontoon into the water and we could swing out of the line of the tug. Harry was a bit slow and the wind was strong.

I cut the motor and leaped from the cockpit to the bow in time to prevent a complete wreck, but my strength was not sufficient. The pretty bow of the *Caroline* smashed against the stern of the tug. The mahogany splintered.

There was disaster! I called for a line from the tug and a swarthy, thickly-set deck hand passed a hawser to Harry, who stood clinging to the wires of the fragile wing.

"Bring it to me quick, Harry, quick," I shouted. Then I saw that would be impossible. "Make it fast around a strut," I ordered. Harry did not hear. His ears were stuffed with cotton to deaden the motor's roar. But, wonder of wonders, he held fast to that heavy line. How he did it, I never will know, for the pull was terrific, so powerful in fact that the deck hand aboard the tug lost his hold and the line slipped overboard. Harry, clinging to the struts and wires far out on the wing, had held fast. A futile miracle. We were adrift, our motor dead, a hole in the ship's bow. But the tug scuttled away with her barge. I swore as I tossed the heavy hawser overboard.

During the next three minutes many things happened aboard the *Caroline*. I first discovered that the hole was above the water line and that we wouldn't sink at once. Then I discovered that we were drifting towards some docks. Once against them, pushed by the strong wind, the *Caroline* would be crushed to pieces. It was a time for action. I had two chances. The motor or the anchor. Either way I might fill the hull of the *Caroline* with water and she would drown.

I ordered Harry to his seat. Throwing on the ignition switch, I pressed the starting button. A splutter came to my ears. I grabbed the crank, leaped into the air, put my body's weight on the down pull and turned the motor over. There was an answering roar. The thing started. Another miracle.

"Kick the left rudder, Harry, head her across the bay — hold the stick in your belly," I shouted, and plunged into the hull for my tools. I crawled out onto the bow, bent the splintered mahogany together and fastened it with safety wire. The hole was six inches above the water line. With care I could keep it dry, even on a take-off into the onrushing waves. I jumped into the seat, grabbed the controls, and opened the motor. Many times have I given thanks for that heavy wind. We were out of the water in less than 100 yards.

All the way to Portland I worried about that hole. It was out in front and underneath, pressing against the wind. I imagined it spreading every minute. I could feel the whole ship dissembling beneath my seat. I looked longingly at Gloucester. Certainly in that delightful fishing village I could find ship builders, cabinet makers, woodworkers, men who could repair the bow. Again at Kennebunkport I hesitated. A friend in New York had told me that one of his flying boats was stationed there. I spent 20 minutes flying over the village, searching the harbor, the river, and the beaches for signs of an airplane. But the ship wasn't there.

We flew on to Portland. Circling over the harbor I saw a huge sign, painted on the side of a gigantic shed. "Spar Yard" it shrieked. A six-masted schooner, one of two that are left in the world, and a fleet of small craft lay nearby. I could find help in that spar yard, if anywhere.

Heavy drops of rain were falling as I set the *Caroline* on the water. Secured to a buoy the ship felt her young self again and I examined her splintered nose. The hull was dry. I had expected to find the bow filled with water, but beyond a few drops of rain it was as dry as a cigar box. The hole had not spread.

Ashore we interviewed the ship builders. It was a spar yard, to be sure, but they knew nothing of such delicate work as was required by the haughty *Caroline*. I spent two hours on the telephone and finally located a Swede, who was a cabinet maker.

"What's the hurry?" he asked. Sailors, plumbers and cabinet makers never hurry.

"I'm going north to meet the world flyers," I explained.

His answer shook the telephone. "What — you're going up to meet the squarehead — you're going up to meet Nelson?" he shouted. "Say, I'll help you. Take your ship to the yacht club landing. Have it there at 7 o'clock in the morning. I'll be there. We'll get you out of here tomorrow afternoon."

I thanked God for the squareheads.

August 6th — Lindquist was on the job at 7 o'clock this morning. All morning we talked about the Vikings, about Nelson, about cabinet making and about flying. The fellow was a marvel. He fell in love with *Caroline* at once and all of his craftsmanship went into that job. He got a helper, shaped the mahogany, filled the hole, planed it off, dressed it down, touched it up with a bit of varnish and finished the job by 3 o'clock in the afternoon.

I sat on the float and told him many stories about Nelson. Nelson was a mechanic in the hangar at Port Washington long before the war and he had learned to fly boats first. He speaks with a decided accent. His head is bald. He is a great navigator. He took a ship to Alaska and returned with it to Washington. All these stories, and more, I told Lindquist about the Viking who was, even then, looping the globe in an airplane. Lindquist beamed. He worked like a madman, lest I be late in meeting his countryman. At 3 o'clock he took my hand and made me promise to give the squarehead the story.

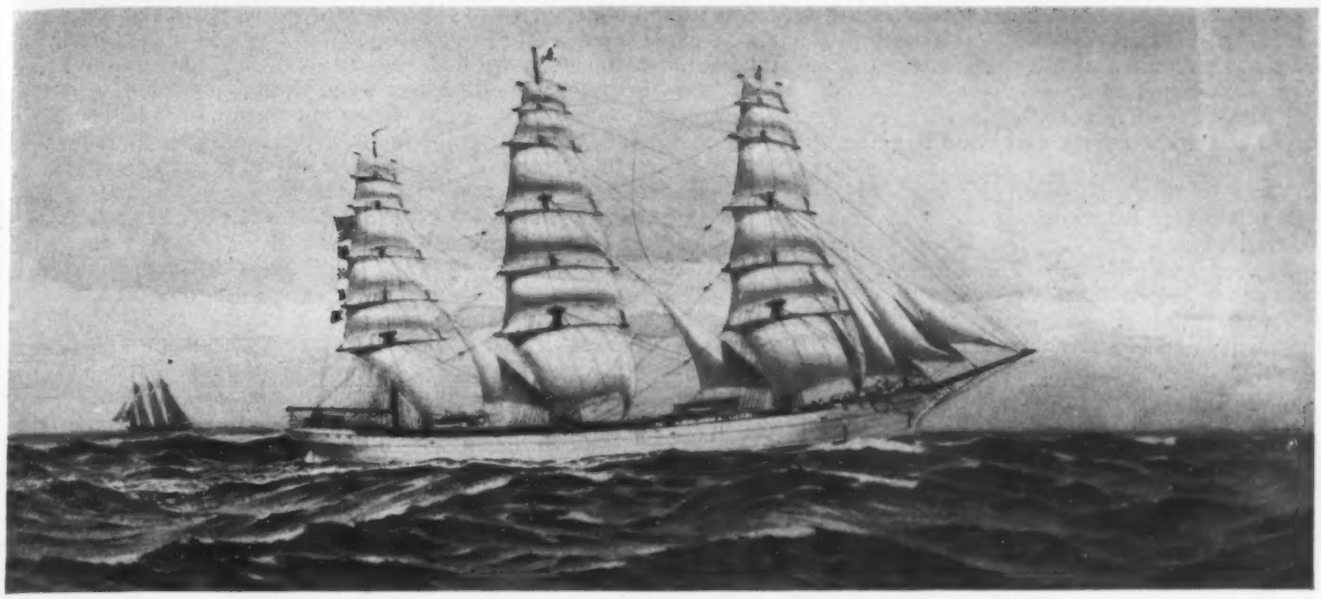
Another tail wind got behind the *Caroline's* yellow wings and helped us along the coast. Once in the air we were happy again, Baker and I, and the strength of nature on that rockbound North Atlantic coast gave us no fear. The *Caroline's* bow was as good as ever and we bounced along, aided by the fair wind, at the merry rate of 100 miles an hour.

The sun was falling as we sailed over Bar Harbor. Several American destroyers, terrifying dogs of the sea, were anchored amid the islands as *Caroline* settled on the water and taxied to a buoy. An hour later we saw two battleships and a lean British cruiser slip into the sheltered water and drop their hooks.

August 7th — A chill, moist wind was blowing the white curtains of our room when I awakened at 6 o'clock this morning and before I crawled out of the narrow summer resort bed I knew we would do no flying. From the window I gazed out over the verandah roof towards the sea. Bells from gigs, gongs aboard the battleships, snorts of sturdy motors in the cutters came to my ears along with the splashing of little waves against the rocks, but I could see nothing. The fog was as thick as bean soup. Even the riding light on the starboard wing of the *Caroline* was shrouded with mist. I went back to bed.

August 8th — At noon Harry and I became so taken with ennui that we could no longer sit idly and wait for a west wind to blow away the soup. The old salts shook their heads and advised, with the wisdom of their years, against trying to force weather. But ours was the impatience of youth. Even the *Caroline*, riding so prettily

(*Continued on page 92*)



The American ship *Bangalore*, which raced the *Packard* around the Horn to 'Frisco.

A Deepwater Race Around the Horn

How the Ship "Bangalore" Raced the "Benjamin F. Packard" to California in 1904

By W. E. SCUDAMORE

THE *Benjamin F. Packard*, one of the last of the famous wooden Yankee sailing vessels, built 43 years ago in Maine by Ross, Sawyer & Packard, was towed into New York from San Francisco a few months ago with a full cargo of lumber and then consigned to a ship broker for final disposal.

Unheralded by ship news reporters, the *Benjamin F. Packard* received a far different welcome to that accorded the clipper ships in the days of their zenith, when their inspiring rushes, seldom accomplished without loss of spars and sails, received columns in the daily press and aroused the interest of the entire seaboard. However, word of her arrival circulated along the waterfront and echoed to the newspaper offices. Belatedly they announced her arrival and sung her praises.

Then, a little later, it was announced that Theodore Roosevelt Pell had purchased her for the purpose of perpetuating her type by making a museum out of one of the last of the full-rigged wooden ships. At the time of writing, the *Benjamin F. Packard* is docked at 129th Street in the North River, New York, undergoing alterations, and will remain there, open to public inspection, until next May. It is proposed to use her to house a fine marine collection gathered by Mr. Pell and Max Williams.

While the *Packard* belonged to a later era than the clipper ships of the 1850's, there was, nevertheless, great rivalry between the owners as well as the masters of vessels of this type. I have before me the private log of Captain P. B. Blanchard who, when in command of the ship *Bangalore*, credited with a fast passage of 88 days from Calcutta to New York, was ordered to beat the *Benjamin F. Packard*, which, it is claimed, made the trip from San Francisco to New York in 93 days on her last westward voyage around Cape Horn.

Several factors accounted for the keen interest felt along the waterfront in this race to California. Captain St. Clair, previously master of the ship *Aryan* and of the bark *Obed Baxter*, commanded the *Benjamin F. Packard*. His vessel was built in Maine of "oak and yellow pine, iron and copper fastened," as Lloyd's succinctly describes her; while the *Bangalore* was built in Great Britain, of steel. Both were three masted ships, three skysail yarders, of about the same tonnage, American owned and commanded by American masters.

The two masters were old rivals. In a race from Boston to Buenos Ayres, Captain St. Clair in the *Obed Baxter* had wrested the honors from Captain Blanchard, commanding the bark *Herbert Black*, when the latter, as her captain remarks, "couldn't get out of her own way." So Captain Blanchard was particularly keen to even the score.

The *Benjamin F. Packard* was bound for San Diego. She sailed from Newport News seven days ahead of the *Bangalore*, bound from Philadelphia to San Pedro. Both were loaded with coal.

From this point, excerpts from Captain Blanchard's private log tell the tale far better than I can.

"*Nov. 2, 1904* — Assumed command of the American ship *Bangalore*.

"*Nov. 3rd* — Cleared today from Philadelphia. Under way at 9.30 A.M. in tow of the Jas. McCalley. Weather fine. Winds variable and calm. 1.30 P.M. Anchored at Delaware Breakwater. Wind N. and thick fog.

"*Nov. 5th* — Came in with wind E.N.E. Barometer 29.6. Weather very unsettled. I am going to lay awhile and await developments. Do not like quite such a low glass under N.E. winds. The *B. F. Packard* is getting a leg on us this time, I am afraid. Our turn comes next.

"*Nov. 6th* — 3 A.M. Wind S.E. Rain. 6 A.M. Shift to N.W. Started to get under way. 11.40 A.M. Five Fathom Bank Lightship bore N.E., 5 miles distant. Wind N.W. Making 9 knots. Heavy sea but vessel going over it fine. She is a daisy. . . . All sail set. She is a fine vessel and a good goer. Steering like a pilot boat.

"*Nov. 8th* — Came in strong N.W. wind. Overcast at times. Squally. Carried away lee mizzen royal and skysail braces; also main tack. Repaired them and set sail again. Vessel averaging 11 knots.

"*Nov. 9th* — Vessel rolling heavily and much water on deck, but what do we care! She is going ahead all the time."

The log shows weather quieting and expresses hope "it will breeze up again." But for several days, "work comprised repairing of flying jib and painting the wire bought second hand in Philadelphia. Carpenter work and general sailorizing."

"*Nov. 12th* — I am entering this day's history in red ink as it is one to be remembered. Came in like a lamb, developed into a ram, after that into a balking mule and then into a full fledged lion! Everything going hell west and crooked. Fore royal sheet went. Then fore brace, followed by flying jib. Main royal was lost on account of poor gear after sail was clewed up. Jib, mizzen, lower and upper topsails, main lower topsail, main topgallantsail, and fore lower topsail lost on account gear parting. Wind blew pretty hard but not until ship was snugged down. Between 2.30 and 3.30 P.M. it blew with hurricane force. Blew the lower topsails clean out of the ropes. One of the main royal buntlines parted. A piece of it 35 feet long had seven splices in it. If that is policy, then I am going to stop going to sea!

"*Nov. 13th* — Upon leaving Philadelphia our orders were to beat the *Benjamin F. Packard*, which sailed about a week ahead of us. This morning at daylight said *Packard* was abeam, in plain sight. *Bangalore* crippled on account of no sail. Sunday duly observed.

"*Nov. 14th* — *B. F. Packard* about 12 miles off at noon, and at 5 P.M. out of sight astern!"

The *Benjamin F. Packard*, one of the last of the American wooden ships in the Cape Horn trade.

For several days the log reports calms and variable winds. Much grief in this weather for Captain Blanchard.

"*Nov. 20th* — . . . This vessel is doomed to make a long passage. I never was so long getting out here before. God help a man that tries to make a passage in this ship. It is enough to turn him gray. I don't know that we shall ever get there, nor do I give a damn.

"*Nov. 26th* — Bark that was in company out of sight astern this morning. This makes two victims this voyage.

"*Dec. 2nd* — Weather much unsettled. Hope we are ahead of the *Packard*.

"*Dec. 3rd* — One man laid up. Pig got out. All hands to rescue.

"*Dec. 5th* — Caught a four-foot shark and put his tail on the end of the boom. Many bonitos around but not inclined to be caught."

Such incidents comprise the daily routine. Ships are sighted. Gear is overhauled and matters made generally shipshape.

The *Benjamin F. Packard* is evidently out of sight and consequently "out of mind." All is well until December 15th, when we find the entry: "Cargo heating a little. Strong smell of sulphur when wind is aft."

"*Dec. 17th* — The *Benjamin F. Packard* in company all day. Was in company with her last on November 14th.

"*Dec. 20th* — Nearly calm. Head sea. *Packard* still in company. Tacked to westward at 7 P.M. in hopes of getting rid of *Packard*, but she also went about at 7.30. She is a picture of bad luck to us.

"*Dec. 25th* — The *B. F. Packard* in company again. Split topgallantsail. . . . Xmas duly observed. . . . I wonder how they are at home today. . . . Moderate gale from W.S.W. Albatross today seen for first time."

The log then records the slow heating of the coal day by day and the desperate efforts of the crew, shovelling, trimming and digging pits and trenches in the heated cargo, with the hatches off, to stave off internal combustion and the inevitable consequences — burned at sea. Adding to the strain on the captain's nerves, and pervading every entry, are the *Benjamin F. Packard* and the owner's orders.

"*Jan. 1st* — Eight weeks out. In 64 fathoms of water. . . . I wonder how the folks at home are. Happy New Year for some, but not for us. May God bless all. Sunday duly observed.

"*Jan. 13th* — Cape Horn in sight . . . 68 days from Philadelphia to the Cape. Rather a poor showing, but have done best I could."

And so, sometimes in company with other sail but haunted always by the thought of the *Benjamin F. Packard*, sail was crowded on the *Bangalore* until it blew to ribbands.

The two ships were in company, on and off, for about six thousand miles. Then the *Benjamin F. Packard*, playing the same game, cracked on sail once too often. "The sticks were blown out of her," and she put back to Montevideo for repairs.

The *Bangalore* rounded the Cape alone and made San Pedro 130 days from the Delaware Breakwater . . . not a record voyage by many days. Captain Blanchard, however, was satisfied in one respect. Accounts between him and Captain St. Clair had been squared.

A Measurement Rule for Auxiliaries

In order to encourage competition between the rapidly growing class of auxiliary schooners, sloops, yawls and ketches, the Regatta Committee of the Beverly Yacht Club is working out a special measurement rule for use in a number of open regattas which are being planned for Buzzard's Bay this summer. If successful the new rule would apply to such boats as Alden's *Malabars*, the Seawanhaka schooners and various types of semi-racing yachts under 60 to 70 feet length.

Drying out in Cornfield Harbor on the north side of the Potomac River.

By Sneakbox to Florida

The Cruise of Two 12-Foot Barnegat "Boxes" from New York to Miami—Part II

By F. Slade Dale

BUT Saturday, October 10th, brought with it an 80-mile northwester which swept the waters of the lower Hudson into a wild ocean of flying foam and spray. We stood pensively on the pier watching tugs and lighters fight grimly to gain a few yards to windward, and wondered vaguely whether we would ever be called upon to ride out a sea like that. Below us our bobbing craft consorted with the trash of the harbor which seemed to be drawn by magic into the corner of the basin occupied by our boats. Barrels and crates, a water-soaked piling and a battered milk can took turns in beating a tattoo on our hulls, and sticky black fuel oil clung in great gobs to our lines or went swirling over the decks to leave a thick coating on the bright varnish.

The afternoon papers brought the first reports of the widespread damage being done to yachts in anchorages adjacent to the city and we were made to appreciate our berth, despite its few disadvantages. The fleet at Gravesend Bay, so recently our mooring companions, had dragged anchor almost as a whole and many of them had been beaten into hopeless sunken wrecks.

By noon the following day we had cleaned off most of the oil and soot and had laced on our sails preparatory to the start across the Hudson. But by the time we were ready the wind had freshened and a few trials off the Battery convinced us that it would be unwise to continue under sail. Accordingly the motors were brought out and attached to the sterns and we were presently plowing our way through the whitecaps, one moment sending a cloud of spray flying in all directions and the next dipping our noses under and scooping up a deck-load of solid water.

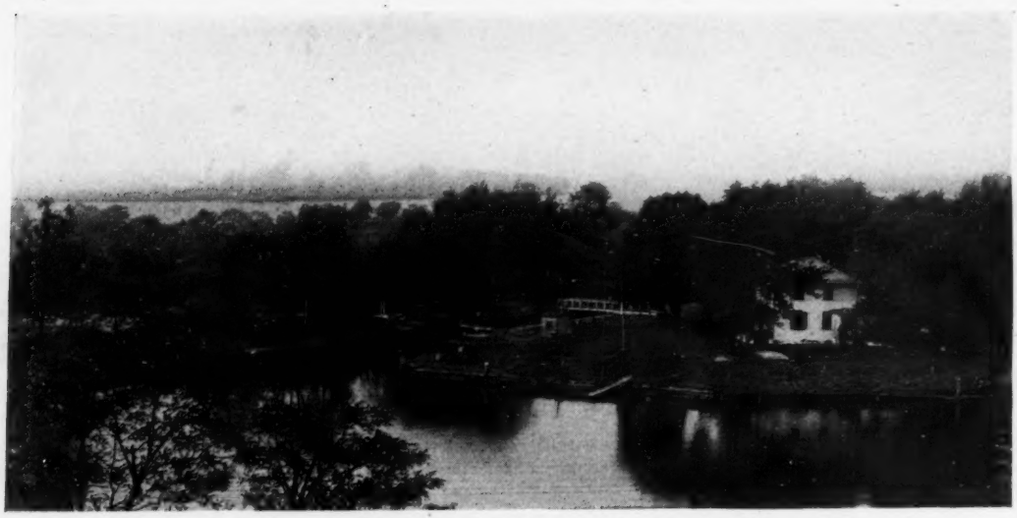
It was our wettest stretch thus far, and for a while we feared the engines would be drowned out before we reached the lee of the Jersey shore. We hadn't bothered to consider the best procedure in case one engine should stop, and as it was too rough for one boat to tow the other we got little comfort from the coil of rope which we always kept handy in case of need. As a general thing we were inclined to adopt the lazy man's method of waiting for trouble to develop before considering a remedy, and although such a system may not be wise, the *Crab* and *Sheldrake* seemed to thrive on it and their crews enjoyed it because it saved so much thought. Of course, there are worse things than having a motor stop in the middle of the Hudson River, but when a lot of skeptical friends have come down to see you off and have not hesitated to say that they don't think much of your choice of a boat — well, that makes you want to get at least out of sight before breaking down. We would rather have had both boats sink behind Ellis Island than have had one motor stop within sight of the Battery.

Neither motor even spluttered under all the spray, however, and we were in high spirits as the haze gradually swallowed the skyscrapers and the Statue of Liberty faded in the distance. A hustling tug condescended to give us two blasts of her whistle and for a moment we felt very big and important, although our dignity was somewhat shattered because we had no horn loud enough to answer her.

Entering Kill Van Kull we were swept along by a swift current which in some miraculous manner managed to spend itself in a few hundred yards, and for the rest of the day we traveled in slack water. Mile after mile of oil piers and factories were relieved by occasional glimpses of grassy fields high up on the Staten Island bank, but the inky water never let us forget that we had not yet escaped the metropolis.

Darkness overtook us as we neared Perth Amboy, and for ease of running the *Crab* was taken in tow before we stole stealthily across the Tottenville ferry slip and around the point into the Raritan River. A medley of lights up on shore and the occasional glare of a flash from a trolley wire were all that we could see of Perth Amboy. Beacon lights guided us up the winding channel till we came to anchor above the large brick works near Sayreville; a day's run of nearly 30 miles behind us.

During the night our peaceful slumber was rudely interrupted by the increasing drone of a tugboat engine, sometimes dying away but always returning with added volume as the boat came around another bend up the river. Finally it broke forth in loud tones and the *Sheldrake's* hatch flew back to reveal a red- and green-eyed monster bearing down head on. Sparks shot upward into the sky and the hollow, pulsating exhaust seemed to have



Bordentown, where the Delaware and Raritan Canal enters the Delaware River.

irresistible force behind it. There was no time for action; just a moment or two in which to wonder if the anchor could have dragged out into the channel. Then the tug swung off to port and passed astern with yards to spare, apparently unaware of our presence. For the next few nights we took pains to see that we anchored well out of the channel, but it was some time before every strange noise ceased to sound like an oncoming tug's exhaust.

Late the next morning we were in the entering lock of the Delaware and Raritan Canal at New Brunswick, on the start of a delightful three days' run across the heart of New Jersey. As the gates closed behind us it was as if a great barrier had been raised to shut us off from the hustle and bustle of busy harbors with their oily waters and shrieking whistles. New York was a port of the past, while ahead lay new waters to be explored. The open Chesapeake promised us some rough stretches; Albemarle and Pamlico Sounds were far-off uncertainties, and the Carolinas' seacoast was waiting to give our tiny ships a real test. But there was no time for dreaming of the future; we had to get our permits made out and already the locktender was calling to know what he should write down as our tonnage.

Ever since our start from Bay Head we had looked forward eagerly to reaching Chesapeake Bay, and we had never considered the intervening waters with any show of enthusiasm. New York gave us an interesting experience

The author pounding out some copy on a typewriter under favorable conditions.

to look back upon, but any immediate pleasure which might have existed in associating with ocean liners, tugs and garbage scows was hidden by the difficulties involved; there were no attractions in that busy harbor for Barnegat sneakboxes and we were glad to escape with minor casualties.

We had never been in the Delaware and Raritan Canal, and with only a mild curiosity to see what it would be like, we had few expectations regarding it. Certainly we never expected to spend three days and part of a fourth within its banks; but eager as we were to reach the Chesapeake we soon became fascinated by the canal and welcomed every excuse to linger awhile along the way.

It was a novelty to be lifted up into a beautiful countryside where farmlands, pastures, and little townships slipped past in endless procession; where ducks and wild birds enjoyed the seclusion of the wooded stretches and hesitated to take flight as we intruded upon them. Once in a while a dirty coal barge, a tug, or a busy factory served as a reminder that the canal was built for some useful purpose, but these interruptions only made the next stretch of woods or farmland more enjoyable. Here and there a leaky old punt served someone as a ferry, or a crudely built raft represented the craftmanship of two barefoot boys. The old wooden swing bridges at the country roads were operated by the drawtenders with a promptness and efficiency all out of keeping with such ancient structures.

There were no delays to irritate the hurrying yachtsmen; and even to us, who liked to dawdle around and watch the bigger boats go through, the locks were opened with the same promptness which the large houseboats commanded. No grouchy locktenders to be cajoled into opening the gates; no wish expressed that we might have arrived in time to go through with a preceding boat; no complaints of overwork or underpay — nothing but courtesy and efficiency. Is it any wonder that 45 miles of such waterway should stand out as one of the bright spots in the inside route?

Beyond the Griggstown lock we selected a grassy spot on shore and emptied our boats of all their cargo. While blankets and clothes were drying out in the hot sun we scrubbed the boats from stem to stern and succeeded in removing the coating of sticky black oil which we had collected in New York. Rain and spray had slowly dampened our equipment and we were glad to devote the day to drying out and putting our boats in order once more.

As we entered Trenton an engineer in his cab on a yard engine waved frantically to us with a newspaper and when we pulled into the bank he showed us a picture of our boats, taken at the Battery. With that as an introduction we were in for a ten-minute stop while the fireman and two brakemen joined in an inspection of our outfits. We don't know what havoc that delay wrought with Trenton freight service, but it held us up just long enough so that the *Lezah* and the big *Sarita* slipped by into the succeeding locks without us, and try as we might we were unable to

catch up again. We always arrived just as their awning tops were sinking beyond the gates, and then we had to wait while the lock was filled up again for us.

Late one afternoon, a week since our launching off the beach at Bay Head, we bade goodbye to the canal at Bordentown and dropped out into the Delaware. An ebb tide sent us speeding downstream in the last few hours of daylight, but after stopping at Roebling to see some friends we ran past Edgewater Park in the darkness and had to retrace our steps to tie up at a little float off Commodore Thacher's home. Like all Barnegat sailors, the Commodore had a ready welcome for sneakboxes and we enjoyed an evening in familiar surroundings.

The anchorage at Solomon's Island, Maryland.

In the morning all was calm and quiet as we pushed down the river past Rancocas Creek, where a short time before an innocent looking sand barge had been found loaded with liquor; there were any number of barges still anchored up and down the river, but they were simply awaiting tugs to take them on their way. A few gunners in rowboats were poking along the edges of the marsh trying to scare up rail or reed birds, while beyond them a more industrious, but less optimistic individual, was bagging a boatload of driftwood.

Under the railroad bridge at Fisher Point we saw evidences of the recent gale's destruction on the Delaware. Two fine little cruisers had sunk to the bottom, their awnings and masts awash in the muddy water. They had rolled over on their sides when the northwester had blown the flats bare, and the next tide had filled them through their ports before they could straighten up. Another case where the sneakbox with its broad bottom is a superior cruising craft! Every day we were discovering proof of the numerous advantages of our "punkin seeds" over their bigger comrades.

Adopting the attitude of the true New Yorker we showed utter contempt for the harbor traffic of Philadelphia and set our course straight down the middle of the river. But an approaching ferry appeared to have equal contempt for us, so we decided to give in to Philadelphia on this one occasion, and headed inshore with all haste.

At the Corinthian Yacht Club we passed the evening with Mr. Bancroft, secretary of the club since its formation forty years ago, who showed us models of famous boats of past years and discussed their qualities with the familiarity of one who had closely followed their careers. The mast of the old *Defiance* stood before the clubhouse, and an old whaler's anchor graced the lawn, together with an ancient cannon cast in Spain in 1792. The clubhouse itself comprised an old building, since added to, constructed in 1800 on the site of what was the seat of the Swedish Government in America in 1638, and just beyond the present dock John Printz, the Swedish governor and the "first American yachtsman," had kept his boat moored. The basin was jammed with large yachts, some laid up for the winter and others on their way south. We left Mr. Bancroft standing on the float the next afternoon, after promising to write frequently of our progress, but none of our cards was destined to reach him for his death came suddenly the following morning, and with it a great loss to those who knew him.

The Chesapeake and Delaware Canal didn't appeal to us as strongly as the canal from the Raritan. Perhaps it was because we were kept waiting half an hour while the locktender slowly made up his mind to let us through. Perhaps it was because we didn't fancy the neat office where they record your past history in official ledgers; the ramshackle affair at New Brunswick was more picturesque, where the locktender licks his pencil and writes out a pass on a little ticket torn from a pad of greasy stubs.

We met a barge captain who had nothing good to say of the canal, the locktender, the superintendent, or the government itself. He had been waiting two weeks to get official permission from Washington to enter with a draft of 9 ft., 2 in., nine feet being the maximum ordinarily allowed. At Chesapeake City we dropped down a distance of 17 feet into Back Creek, where in the absence of an available upland stream, all the water needed for feeding the locks is lifted from the creek to the canal by a huge water-wheel.

We left Back Creek and ran down Elk River into the Chesapeake. Good old Chesapeake Bay, with its cozy harbors and wooded shores, its high bluffs and sandy beaches, its friendly baymen and their quaint oyster

Deck view of the *Sheldrake* showing outboard motor and arrangement of cockpit.

boats. To a casual reader of the *Inside Route Pilot* the Chesapeake is a couple of hundred miles of open water with five or six compass courses which land you at the docks of Norfolk; but to a sneakbox it is a vast ocean, three weeks long, one wide, and deep enough. It has a variety of seas to choose from; the short choppy ones which gets everything wet, the next size bigger which are dry and easy to ride, and the real big ones which catch you after dark and make you wonder why you didn't anchor in that last snug creek.

The first night's run, which landed us in Worton's Cove about midnight, saw two timid and cautious sneakboxes poking their noses into waters where they had no business to be, their skippers steering with an eye on the weather and with the nearest harbor picked out on the chart. We didn't know what to expect from those waters; would it get rough in a few moments if the wind hauled westerly, or would we be able to push on? How did little boats usually fare, and how big a boat could a stiff wind chase into a harbor? We found the answer to these and similar questions before we passed beyond that greatest of bays. Three minutes of a hard wind are enough to send the foam flying; after that the waves keep mounting till the bay looks like an ocean. Big boats are glad to seek shelter as well as small ones, and more than one loaded schooner has gone down in a hard blow — crew and all. A month or so behind us, while we were waiting out a storm behind the Carolina sand dunes, a cruising canoeist lost his life, and the same Worton's Cove which harbored us was often a welcome shelter for houseboats and cruisers bound south by the inside route.

We left Worton's before breakfast was cooked, although it lay on the cockpit floor in the form of a wriggling pike just out of a friendly neighbor's net. Annapolis was our objective, 30 miles away, but we were glad to sneak into Fairlee Creek a half hour later when the wind freshened for a four-day blow. And there we met the Coleman brothers. They had fished since early spring and their net profit, so to speak, was twenty dollars; they thought they might have done better at something else.

"We endeavor to tong a few oysters in Chesapeake Bay."

On the side of Fairlee bluff, where it had been cut away by the water, we could see a layer of oyster shells fully 15 feet out of water, and the fishermen told us that this layer extended through the topsoil of the entire point, covering many acres. It was the only spot they knew of "where oysters had growed out of water" and they could not explain it except by suggesting that generations of Indians had gathered there on seasonal pilgrimages to the oyster beds and fishing grounds of the bay. Large numbers of arrowheads plowed up in the cultivated field seem to lend support to this theory.

One day an old bayman in a shack on the edge of the bluff invited us in out of the rain. He lived mostly on fish and rain water, he said, and in the stormy weather which followed we often thought of the feasts which he must have enjoyed if he were able to catch any fish at all. He had been raised on the bay shore and had spent his sixty-odd years fishing and oystering; so here, we thought, was our chance to find out something about the water which lay before us. But we found that he had never been more than 15 miles down the bay in his life, and the only reason he had been that far was because his skiff had broken away and he had to go down to look for it.

We liked the Chesapeake immensely, but it hardly treated us as a friend. After blowing a gale from the west for four days it dropped to a calm long enough to see us over to the west shore at Annapolis, and then turned around and blew easterly off and on for two weeks while we twiddled our thumbs up a creek or skipped along the shore by night whenever we had a few hours' lull. Of course we saw more of its little harbors and towns than we would have seen had the weather been fair, and there was some satisfaction in being able to make progress in the stormiest fall for a number of years.

Before crossing over to Annapolis we stopped among the oyster boats off Swan Point and endeavored to tong a few oysters. It looked very easy. The men simply stood up and worked their tongs over the side until they felt them full of shells; then they raised the tongs and dumped them into their boats, later sorting out the oysters and throwing back the empty shells. It was very simple. We came up alongside and explained that we had developed a sudden desire for half a bushel of oysters, and could we borrow the tongs a few moments while we loaded one of the boats. I should have grasped the significance of the oysterman's remark, as he handed me the tongs, that "they're the only ones I've got," but I merely thought he was apologizing for their appearance, and a moment later their unexpected weight almost dragged me off the deck. I began to have serious doubts about getting that half bushel of oysters and I feared our next activity would be grappling in 16 feet of water for a pair of borrowed oyster tongs. A long struggle netted me one or two broken shells and I was thankful when the unwieldy rake had been restored safely to its owner and we were off for Annapolis, with a deckload of oysters from the oysterman's boat as a reward for such valiant efforts.

While eating breakfast in the rain the following day, tied up near the crew's quarters at the Naval Academy, a loquacious groundkeeper informed us that there was a naval school at Annapolis, for which bit of information we heartily thanked him. We left Annapolis however, without finding out the number of feet in a nautical mile, a question which had been bothering the navigator ever since we measured our speed in statute miles in the Delaware and Raritan Canal. Now that we were on a "deep water" cruise we wanted to talk in terms of knots and nautical miles, as real sailors are supposed to do, but when we had passed the Naval Academy without learning how to convert from one to the other we heaved a sigh of relief and henceforth used the lubber's statute mile in the intricate calculations which arose as we "steamed" down the shore of the Chesapeake or set our course up some crooked creek in South Carolina. And anyway, our speed expressed in knots would have been some twelve per cent lower and we had no intention of being figured out of some mileage by any such trick as that.

A harborless stretch of 35 miles to Solomon's Island lay ahead for the next day's work as we dragged into the shallow harbor in Herring Bay, but the anchorage was so uninviting that we put things in order for a night run and

(*Continued on page 100*)

The Last Voyage of the *Spray*

What Captain Slocum's Son Thinks Happened to the Famous Little Craft on Her Last Voyage

By VICTOR SLOCUM

THE question is often asked me, "What ever became of the *Spray?*" I hear it not only from her friends here at home, but wherever I have happened to make a voyage since the disappearance of my father and his little ship into the great unknown 16 years ago. The query has almost become an echo, and it has come to me from widely separated parts of the maritime world. I have heard it in Tasmania, where the *Spray* was remembered with affectionate interest; in Australia, where she was particularly at home; in New Caledonia some pearl traders asked after the *Spray*, in New Zealand I found her to be held in high esteem, though she never visited those particular islands. She exemplified what everyone liked to see in a ship and a sailor.

In Valparaiso I talked with a sea captain who regarded as a great moment of his life meeting the *Spray* in the Straits of Magellan, just as at Sydney I found another man who had encountered the *Spray* at Cape Town, and another who had seen her at Mauritius. Ex-submarine men on the Elbe have asked me, "What ever became of the *Spray?*" one of them saying, in his own way, "I admire a daredevil because I'm a bit of a daredevil myself." This, of course, was hardly the point of view of the *Spray's* skipper, but I accepted the statement as a compliment, remembering a fine letter from the former

Captain Joshua Slocum in the companionway of the *Spray* having a "mug-up."

Kaiser, himself, who on reading *Sailing Alone* had at once transmitted his appreciation through his embassy here.

In the fall of 1909, the *Spray* sailed from Bristol, R. I., bound on a voyage to the Orinoco River, and since that day of sailing not one authentic report of her fate has ever reached the shore. Any reader of YACHTING knows as much as I actually know of what happened to her, but we may surmise her fate by reviewing the character of the intended voyage and the sailing habits of the captain. My own opinion is that the *Spray* was cut down in the night while crossing the steamer lanes not very far south of Montauk Point. There was an unconfirmed report that the *Spray* was sighted about half way between New York and Watlings Island, but if that were true it

The *Spray* as she appeared under sail starting on her last voyage.

would indicate that her fate was only deferred until she fell into the track of the Panama traffic.

According to his habit, my father continued to sail single handed, and after his return from the world voyage he was accustomed to go to the West Indies nearly every winter. He usually went to Grand Cayman, where he had become interested in the fine sailors of that island, said to be the descendants of the original buccaneers who harried the Spaniards.

When the *Spray* sailed from Bristol she had just been overhauled and was in the pink of condition in hull and rigging; so it is, therefore, out of the question that she ever went under from any stress of weather; so we are left to think only of the sharp and swift stem of an ocean steamship, flying by in the dark. This is a danger to be taken into account by any single-handed mariner, especially on account of his inability to keep proper lookout. It is a danger that can not be wholly attributed to carelessness on the part of the steamer, for I know of no class of men who are more vigilant and more uneasy about small sailing craft and their dim running lights than the

watch officers on a steamer's bridge. When it was all sail on the sea it was all right, and before steam got up to twelve knots it was not so bad, but now the meeting of extremes is dangerous.

In this contingency the safety of a sailing vessel, even of considerable tonnage, is to have a good flare ready and to make proper use of it to any steamer coming head on. This can not only be seen by the steamer long before the dim oil lights of the sailing vessel become visible, but the flare illuminates the sails and reveals to the steamer the sailing vessel's course. The *Spray* was, of course, equipped with a flare, but who knows what might have happened to a man under such conditions all by himself, even if he were on deck.

When the captain went below for a much needed rest, he was in the habit of putting the *Spray* on a working sailing angle with the wind which was nearest to the desired course, knowing that when he came on deck again she would still be there. But Captain Slocum had a

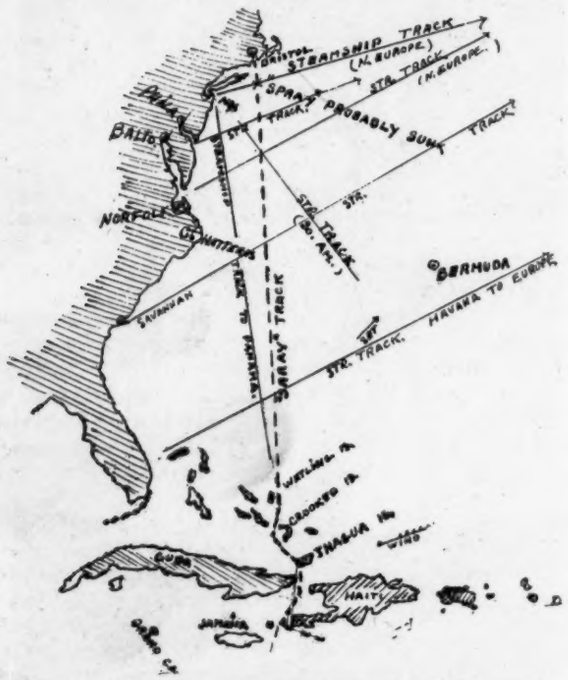


Chart of the *Spray's* projected track on her last voyage.

constitution which required very little sleep. Even with a crew and a watch officer I never knew of his having to be called in an emergency. He could *feel* things coming.

A mere glance at the track chart will enable anyone to form an idea of the risk from passing steamers on a boat voyage to the West Indies. The first track of importance is the New York-European lane, and the *Spray's* course would have intersected that but a day's sail to the south of Montauk. Farther down are the tracks coming and going between the Delaware and Chesapeake Capes and Europe. Then comes the Savannah route and then the track from Havana across, to say nothing of the steady procession of steamers up and down the track between points north of Hatteras and Panama.

It can be seen that no accident could have happened to the *Spray* between Watlings and Navassa Islands without becoming well known. As all voyagers among the Bahamas know, there are very frequent small settlements in the islands, and these are the home of a people who know what is going on in the way of wreckage. They can "smell" a wreck and they are very frank in their inquiries when hailing passing ships while out cruising, like vultures on the scent of prey. Get into trouble on a beach or a reef and you will soon see them coming. But their excessive garrulity serves a useful purpose, for they are as good as a radio on a broadcast in their own restricted area. So that the fact that no trace of the *Spray* was ever picked up during these 16 years since she sailed out of Bristol on an October morning, is evidence enough, to my mind, that she was not lost near the land.

There is a slight chance that the *Spray's* skipper decided not to make Inagua as was first intended, but took more of a windward course, passing closer to Bermuda, to make one of the Windward Islands. But on this course the original danger would not have been lessened to any extent.

In her early days the *Spray* almost invariably shaped her course to the prevailing wind, and maybe she took on her old deepwater habit of sailing with a free sheet. Readers of her 'round the world voyage will recall that at the very outset she sailed well off the wind in making Gibraltar. On her change of plans and determination to sail around the world the other way she passed at an easy angle with the northeast and then the southeast trades. After emerging from her terrific experience in Magellan Straits and after clearing Cape Pillar for the second time, she carried a light westerly wind to Juan Fernandez, which is the corner of the southeast trades in the Pacific. She carried this advantageous condition of wind, sea, and current during the entire 70-day run which ended at Samoa. When homeward bound, and after clearing the north coast of Australia, she took up the next great leg of her voyage at Keeling Cocas which, it will be observed, is the starting point of the southeast trades in the Indian Ocean. On rounding close to the Cape of Good Hope the southeast and then the northeast trades in the two Atlantics were taken up. It is interesting and instructive to plot the entire course of the *Spray* on a wind and current chart, for it shows a master's touch at the wheel.

In her life, the *Spray* sailed always buoyantly and cheerfully for the sheer joy of voyaging, but though her captain averred that the sea was made to sail on, we must also remember that we seamen love the great ocean for the very mystery of its bigness and depth.

Entries for the Bermuda Race

ENTRIES for the Bermuda Race are coming in fast. Although it is nearly five months before the start of this longest event on the Atlantic Coast, 19 entries have already been made.

Yacht	*Rig and Length*	*Owner*
Blue Goose	Schooner 70′	J. G. Hall
Dragoon	Ketch 66′	R. N. Bavier
Quita	Schooner 60′	George Woodward, Jr.
Fei Seen	" 58½′	Irving Cox
Cygnet	" 58½′	Paul Hammond & Elihu Root, Jr.
Windjammer	" 57′	Edward Crabbe
Countess	" 56′	L. Gordon Hammersley
Blue Water	" 55′	Melville R. Smith
Malabar VII	" 54′	John G. Alden
Mystic	" 52′	W. F. Downes
Primrose III	Yawl 48′	O. S. Payson
Malay	Schooner 45′	R. W. Ferris
Sagamore	" 43′9″	Edward W. Madiera
Heart's Desire	" 43′	A. S. Neilson
Mary Ann	" 42′	John Parkinson
Malabar III	" 41½′	Everett Morss, Jr.
Mary	Ketch 41′	Dr. Henry C. Rowland
Gauntlet	Schooner 50′	A. E. Dingle (Royal Nova Scotia Yacht Squadron)
Senora	" 70′	W. E. Bodman

It looks from this as if the record number of starters in the 1923 race, 22 yachts, will be exceeded. The race starts June 20th and entries close on June 10th. Don't delay in starting your preparations, if you intend to go this year.

Off Shore With *Mary*

Part III — From Hampton to Bermuda and an Eventful Voyage to Provincetown

By HENRY C. ROWLAND

THIS little storm blew out in a few hours to leave us becalmed again, in a very troubled sea, so that we took off sail and tied things up to keep them from slamming about. When it grew still enough to warrant, we started the motor. Our record for making the passage under sail alone was spoiled, and we wanted to get on, what with more than half of the fresh water pumped out of the bilge overboard and the rudder stock beginning to wring a little.

The breeze came again, N.E. this time but fickle, so we let her go full-and-by. A meridian altitude sight showed that we must be nearing the inshore edge of the Stream. The temperature of the water at 10 P.M. June 24th was 68, and at midnight dropped to 60.

Morning showed the surrounding water to be greyish green and cold and wet. The sky was overcast, the wind N.E. and lightning. We were making now for Nantucket Shoals lightship, and at 9 A.M. of June 25th, hove to and took a sounding, getting 35 fathoms. It began to blow hard, N. ½ E. Then in came the fog, dense, driving, in shallow bands. At first there were open rifts between these successive banks of swiftly drifting vapor so that one could look round a little, and in one of these clearings I sighted a long broad patch of disturbance on the sea. Calling Chase to look at it he thought at first it might be shoals, but I did not agree with him. In the dim gray light it looked to me like a vast school of fish breaking on the surface. We gave it a safe berth and presently there appeared another on the starboard bow and still another to port. This time a flock of circling mackerel gulls announced its character even before we saw the fish leaping. I have never seen so big a school of mackerel as the first. It looked to be a furlong by half that in width. Then the fog shut down thick and dense and dark on the water but very shallow with the sun lightening it overhead.

It looked as if we were out of luck. Fog, N.E. wind, a falling barometer, just when we greatly craved a glimpse of the lightship, or to hear the sound of its steam chime whistle. Six days out of Bermuda during which time we had seen but one far distant ship, and coming in on the most dangerous section of the whole Atlantic Coast of the United States, the channel between Nantucket and the Georges Shoals. Doubly perilous because of the shoals themselves and also the traffic. In this latter respect Nantucket Lightship is rather like a traffic cop at the middle of Broadway and 42nd Street. Not so safe, though, because the cop can halt the traffic while you get past, or in a jam you can stick close to him until it clears. The lightship offers no such refuge. It merely tells you where you are, and advises you to get out of there as fast as your legs can carry you.

Had I been depending entirely upon myself to get *Mary* out of such an undesirable neighborhood, this is precisely what I should have done, and back toward open sea, there to heave to and wait for the weather to clear. But Chase longed for a look at that pretty red-cheeked lightship, and hated to lose the distance we had worked so hard to gain. His *amour propre* as navigator was concerned, though it need not have been as I am convinced that when presently we had run off our distance to that floating lamp-post we should have seen it sitting pretty not so far away, if the weather had cleared. But the fog was by this time so dense that if it had been silent we should have seen it and hit it at about the same minute, while thickness of the air, the close swashing and seething of waters and stringed instrument orchestra of rigging were enough to drown or to disguise distant sounds.

Nevertheless we heard presently the muffled blare of a steamer's whistle ahead. Lunt timed the blasts, and they did not agree with the 5 seconds blast and 25 seconds silence of the lightship. She crossed our bows diagonally, and another whooped out from farther off. It would not do to loiter there. Too many vessels hourly take their departure and make their landfall on Natucket Lightship. . . . if you can call it a landfall, 42 miles from the nearest beach.

We had three choices: to try to work in, fisherman fashion, with the lead, sounding our way up-channel; to stand out to sea and heave to until it cleared; or, as Chase favored, to get inside the 30-fathom curve which cuts the lightship, and where no big steamers have any business to be. If a man is doing a job, especially when so detailed by oneself, I believe in giving him full scope. So inside the 30-fathom curve we went, and hove to under the foresail.

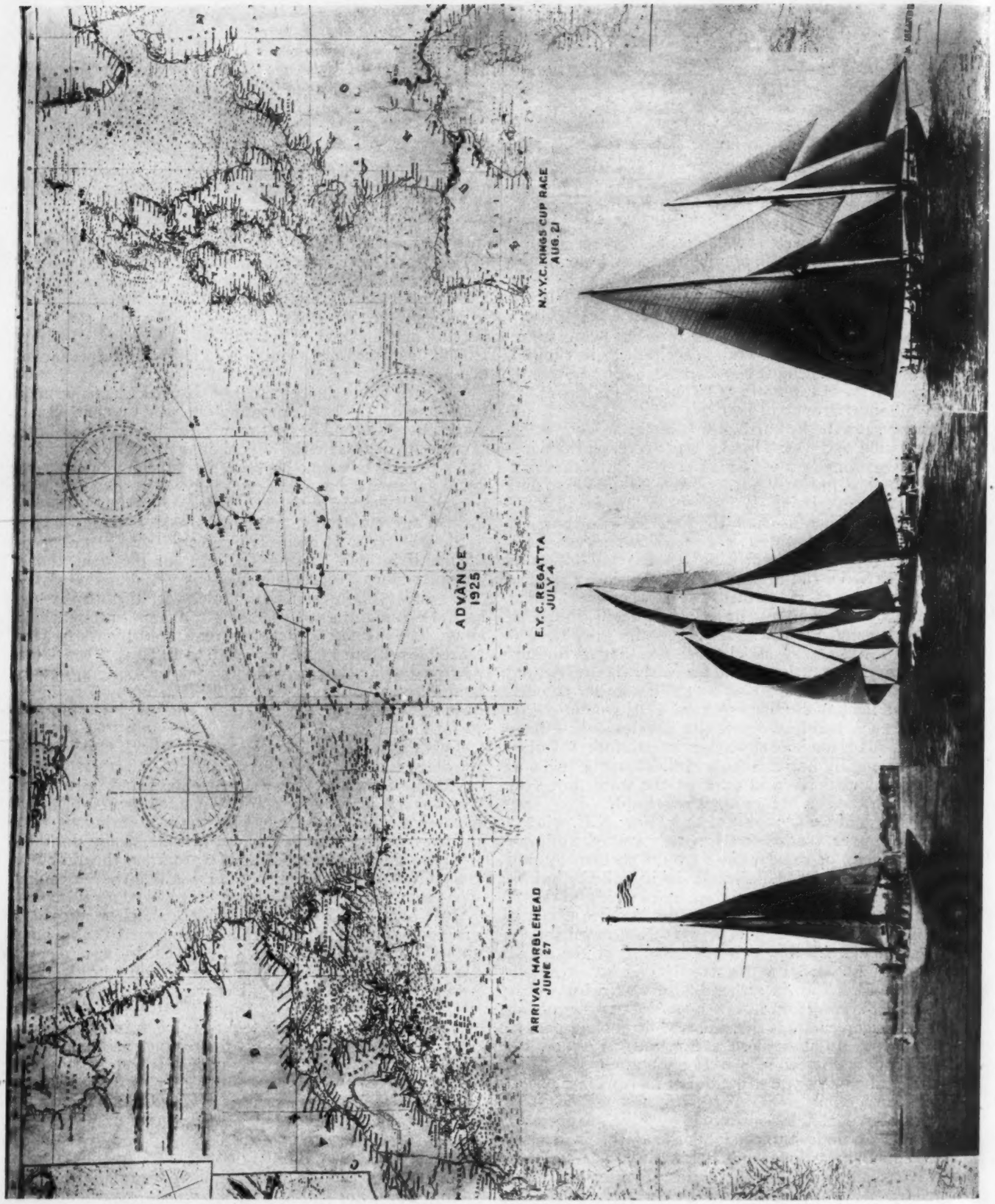
Then followed 24 hours of interesting and rather spectacular if fatiguing work. To hold our position, and if possible to locate it precisely, we took soundings hourly — *Mary* under full foresail, closehauled with the helm lashed hard down maintained her line of position, fore-reaching about half a knot an hour, as registered by the patent taffrail log. From 1 P.M. June 25th to 10.50 A.M. June 26th we edged along thus, hove to and taking soundings every hour, these depths starting at 21 fathoms and rising in even ratio to 24 fathoms at 7 A.M., then taking a jump to 32 fathoms.

This was a weird night. We worked back and forth in the dense fog, the wind puffy and for the most part strong up to midnight and the swell very steep and fairly high. The work of sounding was arduous, a two-man job, partly because our regular lead line had only 20 fathoms, so we used a cod line; partly because in that pitchy darkness with the crashing and roaring of waters and the din below it would not do for one man to be working the lead alone. Too easy to slip overboard and be whisked away.

Just before nightfall we had sighted, close aboard, a gruesome looking object. Chase called me to ask what I thought it was. Rising and settling in the big swell I saw a white and livid sphere the size of a man's head, about awash. Beneath it was a bulkier mass of dirty white from which something streamed down indistinguishably. I did not tell the boys what this looked to be, from my point of view. We needed a kindly light amid the encircling gloom rather than so depressing a symbol as was here. It looked to me like a drowned man long immersed, in a cork life-preserver. There was nothing to do about it under the conditions. Our dory was lashed down on deck capsized, and before we could have got it cleared and overside the floating object would have drifted away in the darkness and fog. Neither was there time to wear ship and get alongside it, nor would that have been expedient as we were trying to get a line of position necessary to our safety, with Asia Rip to leeward not so far away. Besides, it might have been a dead monk-fish. I had been deceived by these fish before.

I told them that it was probably a monk-fish, but they had their own unexpressed ideas about this. The impres-

(*Continued on page 102*)



Track chart of the most talked of yacht of the year, John S. Lawrence's schooner *Advance*, on her Western Ocean passage, May-June, 1925. Her track shows many adverse gales and head winds. The passage took 45 days. Below the chart the *Advance* is shown under her ocean rig; under the rig she used on the Eastern Yacht Club cruise, and with the rig as used on the New York Yacht Club cruise.

Nautical Nuggets

Part I—The Value of a Good Racing Bottom, and How to Get It Without Undue Expense

By WILLIAM W. SWAN

AS a result of the series of articles last summer on hints to the novice taking up yacht racing many letters were received from all parts of the country suggesting that the articles be continued. So this is the first of another series, which will go much deeper into the problem of getting your craft into proper condition, and keeping her so, points which count so much in the winning of races. In other words, with a thorough knowledge of what should be done to get a boat "right," it should no longer be possible for a few to have the distinct advantage of perfection in hull, sails, and deck layout, while many good helmsmen, through lack of proper instructions, are struggling to win races under the handicap of a poor under-water surface, ill fitting sails, and a bad deck layout which puts both the helmsman and his crew at a disadvantage.

This may seem a large order to the uninitiated, but in contact with racing men and racing yachts I have observed many things and absorbed much useful knowledge which can be passed on to the newcomer at the game through the medium of these articles. Racing men who are interested enough to study the points brought out can, I am sure, find a way to put them into practise and thus have their craft in nearly perfect racing condition without the expenditure ordinarily thought necessary.

Experienced racing skippers have gradually learned many tricks in conditioning and racing their boats which have increased their speed. In passing it might be well to tell the story of a "Bright Soul," who, in a one-design class some years ago, began to win quite regularly, much to the astonishment of other owners who could not understand why this one boat should suddenly develop superior speed when they were all cut from the same pattern. The frequency with which this boat won was most marked in light weather. The skipper was questioned and watched without result. Finally it came out that he had his own railway and a cradle running up the beach in front of his house and that, after each race on Saturday (and possibly a sail on Sunday) he would haul his boat up the beach and leave her there until the following Friday, thus drying her out thoroughly. The other owners not having this advantage, found that with leakage and rain water, their boats became gradually heavier because of the water-soaked condition of hull and keel below the waterline. When the light weather, which often prevails in the summer, was met, the dry boat would naturally be livelier and gather speed just a little quicker than her rivals, and, barring a mistake in handling, would finish well in the lead.

This situation led to the adoption of rules which prevented boats of the class from hauling out oftener than once every two weeks for a period not longer than 48 hours. This, or some similar rule, is now universally incorporated in the racing rules of nearly all one-design classes.

Then there was the "Smart Alec" who ventured closer to the "unfair" line by observing that the front edge of the keels of his class were blunt. He went to an obscure yacht yard and had the keel of his boat sharpened to a knife-like edge. It was surely surprising to the other owners in this class to see a bird who had consistently finished in the ruck suddenly develop a winning streak. It took but a short time to fathom this mystery, and without a word being said, the class soon put him back in his accustomed place when they all had their keels sharpened too.

Yet, in spite of this, the owner who can carry an experienced, highly paid, professional racing captain can keep the hull and sails of his yacht in better shape than the man who cannot afford that luxury. The owner who does not count the cost of hauling out the prescribed number of times has an advantage over those who let their craft stay in the water an extra two weeks to dodge the overhead. The man who can afford it will take a chance and ride through a squall with his best suit of racing sails, well knowing that he will ruin them, but the others must watch their step in this respect and forfeit their chances in this particular race by lowering away.

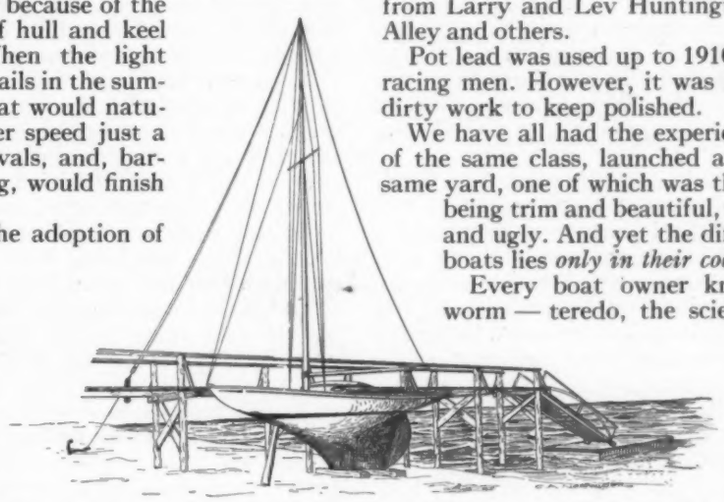
So the object of these articles becomes clear. I am endeavoring to show the average owner who must count the cost the methods followed by these professional handlers of racing yachts and tell them how these may be accomplished without the necessity of shouldering excessive expenditures, thereby more nearly equalizing the chances.

The first thing to be considered before the start of a racing season is the paint. Back in the days between 1895 and 1905 ordinary pot lead was used on small boats. This made an extraordinarily good racing bottom. I can remember Larry Huntington and some of his "one-rater" boats in the old Seawanhaka Class being pot leaded right up to the rail. It was considered a duty on the part of the sailing-mad youngsters of New Rochelle, (of which I was one) to appear at Larry's yard during hauling-out time to help polish the bottom of the *Rochelle*, and other famous craft. We were rewarded by being allowed to sail as crew now and then, thus picking up much sailing knowledge from Larry and Lev Huntington, "Pop" Morse, Bryan Alley and others.

Pot lead was used up to 1910, or thereabouts, by many racing men. However, it was hard to apply, and meant dirty work to keep polished.

We have all had the experience of noticing two boats of the same class, launched at the same time from the same yard, one of which was the admiration of everyone, being trim and beautiful, while the other looks dingy and ugly. And yet the difference between these two boats lies *only in their coats of paint.*

Every boat owner knows and fears the shipworm — teredo, the scientists call it. This fierce-sounding animal is only one of the host of enemies constantly attacking your boat. His work is aided by barnacles and other marine growths; friction against piers, dinghies, mooring buoys and hidden obstruc-



Method of laying a small yacht alongside of a dock for scrubbing and cleaning her bottom.

tions; the continual tramp of feet on deck. There is only one sure protection against these — paint and varnish. But it is important to make sure you are using the right kind of paint and applying it in the proper manner.

In the spring, as soon as the weather is bright and sunny enough, take off just enough of the winter coverings to clear that section you wish to work on. First, clean out and scrub the bilge thoroughly. Run a wire through the limber holes to clear them.

If you did not clean the exterior bottom in the fall, when the accumulation of marine growth was soft, get at this job first with a wire brush and elbow grease. Spare neither. Don't use water. Dry cleaning is less messy.

My advice to the racing man is to remove the old paint right down to the wood, either by the gasoline torch method, or by using any one of the many good paint and varnish removers. If the old coat is too thick you may have to resort to muscle and the torch. The knack comes in knowing how to heat the paint to just the right temperature. Don't burn it. Keep the torch in motion. Keep going at a steady gait. The paint remover is applied with an ordinary cheap paint brush. Apply liberally, and when paint is softened, just slip a putty knife under it. Wash the surface clean with waste or rags soaked in benzine or gasoline.

When you use coarse sandpaper, wrap it around a small block of wood or cork. At first rub *across the grain;* then give a second rubbing with finer paper, this time with the grain. Clean off with rags slightly dampened with kerosene.

If the old caulking is in good shape leave it alone, but if the cotton is rotten or "shy," drive in new. Caulking cotton and cotton wicking can be purchased at any ship chandlery. It comes in balls of five or six strands. You can get the thickness you want by doubling. Tap it in loops every six inches or so along the seam and then go back over it and drive it in snug. Don't drive in too tight or too far, because when your planks swell up it may start the fastenings.

Now putty all rivet, screw or nail holes, and fill seams with composition of a color to blend with that which is to go over it.

How to Apply Racing Bottom

The friction of the water against the boat has a great influence on her speed. There are several racing greens and bronze paints that produce a smooth, highly polished surface.

After you have finished the above preliminaries apply a first coat of racing green, thinned with one pint of turpentine to the gallon. Allow it to dry thoroughly. A whole week if possible. Smooth down with 0 sandpaper, taking care to rub dust off with rags slightly dampened with kerosene. Apply the second coat as it comes from can. Allow time to dry thoroughly. Smooth down with 00 sandpaper, again removing dust, and apply a good final coat as it comes from can.

Topsides paint is applied in same manner. An experienced yachtsman once told me that black paint as a topside color was not only a difficult surface to keep looking well but that it absorbed heat rays from the sun very readily, causing excessive "drying out," and consequent opening up of seams, especially on the smaller, lightly built craft. When dark topside colors are used, be careful to color your putty the same tint as the final coat, or the seams will almost surely show.

You will note that unlike many other painting operations no priming coat is mentioned. It is the writer's experience that it is a great mistake to prime a new hull with a light, inferior grade of paint, as has been the usage in some of our best yards. Admitted that a water line can be struck more easily upon the white or light colored primer, it stands to reason that this film of cheap paint prevents the more expensive racing article from drying hard on the actual wood surface — with the result that your outer film will soon commence to draw and peel off.

Once properly applied it is desirable to *do nothing further* in the way of painting below the water line, if it can be avoided, *through the whole racing season!* You have a thick film of hard paint which can be scrubbed with a coarse brush to remove marine growth and then be polished with steel wool or fine sandpaper.

A simple explanation of why this method provides the best racing bottom can be gleaned from the talk I once had with the boss painter at one of our best yards: "While it is natural for an owner to wish to have his boat looking spic and span," he said, "the idea that a good *racing bottom* can be put on between Saturday races is ridiculous. If the owner is lucky he gets hauled out on Monday. The boat must then be scrubbed and any leaks attended to. She must then be allowed to dry thoroughly. (Because of bilge water inside and weather conditions the time varies from 24 to 42 hours.) A coat of paint is applied and allowed to dry, say 24 hours, and under the very best of weather conditions the boat is put back in the water on Friday afternoon, or Saturday morning, looking better, but with a film of paint that has been improperly applied (through no fault of the yacht yard) and a surface that is tacky and rough, therefore unsuitable as a racing bottom."

Now comes a hint on how to keep your craft in good racing condition, as far as bottom is concerned, and at the same time save yourself some real money. Instead of following the crowd and sending your boat to the yard to have her hauled out, scrubbed, and put back in the water at their convenience, and at considerable expense, take a day off and do it yourself.

All the way up and down our coast there is a rise and fall of tide, ranging from six feet to fifteen feet or more, according to locality. If you are a member of a yacht club, or have a pier or dock of any kind in your vicinity owned by persons who will give you permission to use same, you can take advantage of the tides and haul your craft without running the slightest risk. I had better temper this somewhat by saying that I would not advise an owner of a boat larger than the 30-foot class to attempt to haul his own boat.

Knowing the draft of your craft, and location, and shape of keel bottom, pick out a spot beside the pier or dock where the beach is solid and free from eel grass or rocks. At low tide place two railroad ties, or 4″ x 6″ timbers, at right angles to the pier and far enough apart to take the bottom of your keel, allowing at least a foot fore and aft and far enough removed from piles or dock sides to allow your keel to rest at about their centre when rail of boat is near pier. Anchor these timbers by placing weights upon them or driving stakes beside them into the sand and nailing to timber.

Mark their exact position on the pier with chalk or paint, and also put small marks on your boat's rail, indicating both front and rear limit of bottom section of keel. At high tide bring your boat in and fasten her to pier with bow and stern lines so that marks on pier and on rail of the boat coincide. Place a heavy anchor about 75 to 150 feet away (according to height of mast) on opposite side of pier and fasten either the throat or peak halliards to the anchor cable, using a bowline knot.

As tide recedes, ease off your bow and stern lines and take up slack on the halliard used until your craft has settled upon the timbers. Place fenders or old cushions between piles or dock sides and your rail, and by tightening the halliard heel her slightly toward the pier. Make

(*Continued on page 104*)

Taming the Wild Exhaust

Sane Advice on the Exhaust Piping and Installation Problem

By S. S. Pierce

IN spite of the tremendous improvement in the marine internal combustion engine in the last ten years, many of the accessory parts thereof do not seem to have enjoyed the same advantages. Engine manufacturers and, to some extent yacht designers and builders, seem to consider that a satisfactory engine, *per se*, is achievement enough, provided it drives the hull at the expected speed, regardless of whether the power plant as a whole is satisfactory or not.

Probably one of the most striking examples of this is the fact that motor boats today are frequently just as noisy (and smelly) as they were ten years ago.

It will be argued that larger and more powerful engines are now in use, that the horse-power per cubic inch of piston displacement has increased, that higher r.p.m. calls for more lubricating oil, and that with the present day gasoline, combustion is less complete, hence there is, necessarily, more noise and more smell than was the case ten years ago.

This is all very true, but is only begging the question after all. The root of the matter seems to lie in the installation of the exhaust system failing to arouse sufficient attention from either the boat builders or engine manufacturers; in other words, it is a fatherless child which the boat builder can blame on the engine builder and vice versa, while the naval architect may blame it on both.

In studying this problem one of the first questions that crops up is: should the exhaust pipe be short or long? All other things being equal, the longer the pipe the less noise at the point of discharge. The shorter the pipe the less vibration, the less sooting and deterioration, and the less fire risk. In a motor boat, the long pipe presupposes a transom or stern exhaust and the short pipe a side or stack exhaust.

As there are several excellent cast-iron mufflers on the market today which practically eliminate the sharp detonations of the escaping gases (provided one uses a size or two larger than that recommended by the makers for any particular engine) the short pipe seems to have every advantage over the long. Between a side and a stack exhaust there can be no question, as a side exhaust blows across the deck half the time and leaves dirty streaks on the boat's side all the time, in addition to submerging in rough water.

The advantages of the short pipe stack exhaust may be enumerated as follows: vibration and reverberation confined to engine-room; minimum of outside noise, owing to final discharge of gases being upwards and at a point above passengers' heads; minimum lengths of piping and numbers of fittings required, hence inexpensive first cost and replacement costs; more readily dismounted and cleaned; cannot be submerged; practically no fire hazard; no holes in hull or bulkheads, and, finally, the heat in the upper part of the pipe accelerates the natural draft up the stack.

The next question is the problem of cooling. In the case of a motorboat with the short stack exhaust there is no need of actually cooling the gases, it is merely necessary to keep that part of piping and muffler which is below the stack opening from unduly heating the engine room. This may best be accomplished by water-jacketing, although a thick lagging of asbestos is often sufficient and has the advantage of cheapness and greater facility in dismounting. If the exhaust system is water jacketed it should, of course, be made of brass or copper, preferably copper, otherwise iron will do.

Sketches I and II show a very simple and inexpensive installation without any muffler at all, properly speaking. The upper end of the pipe is stopped with a pipe plug. A number of small holes are bored just below this point. The total area of the opening of these holes must be double the cross-sectional area of the pipe. A thin cast-iron shield, open at its upper end, surrounds this part of the pipe, as shown in Fig. II. As the area of the space between pipe and shield need not be more than that of the pipe itself, the shield may sometimes be made of a larger size of pipe, using a reduction nipple and union to fasten it at the lower end. The shield should *never* be made of sheet metal. In any case a small hole must be bored through its lowest point, as shown in Fig. II, as a drain for any accumulation of water.

If a muffler is used it should not be in the stack, as its bulk will nearly fill the latter and seriously impair the draft. It should be made of cast-iron, preferably water jacketed. Whatever supports or braces are needed in the exhaust line must not, of course, be rigidly fastened to the pipe, but should be in the form of a free sliding fit, not only to allow for expansion, but to prevent strain, or even breakage, in a seaway. This bracing, or supporting, of the piping and muffler is an all important and much slighted factor in the success or failure of the entire system. In some cases where the installation is otherwise satisfactory and practically noiseless, an

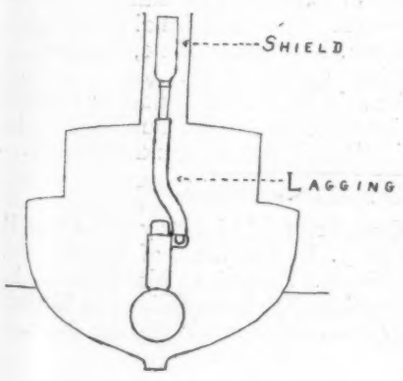
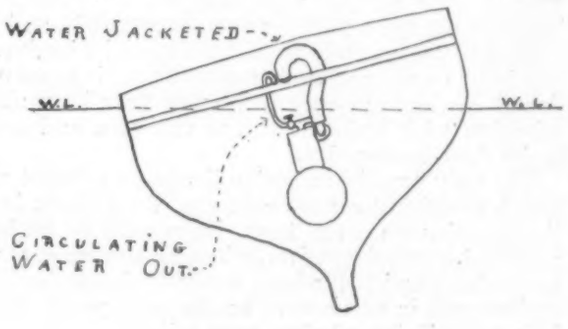


Fig. I (left). Type of stack exhaust.

Fig. III (right). English life boat athwartship system of exhaust. It has many advantages to recommend it.



improperly supported piping will receive and amplify the vibration of the engine thereby setting up a reverberation which is simply deafening to those aboard, and gives the impression of an open exhaust to those outside. Packing the supporting bands with asbestos will sometimes cure this condition, but not always.

It must be borne in mind that an engine is a relatively tall structure, fastened to the hull at nearly its lowest point, that the exhaust pipe leaves the engine relatively far above this point, or in other words, where the amplitude of vibration is greatest. It must be borne in mind also that any piping which vibrates almost invaribly produces sound. One of the best examples of this is the ordinary water piping in houses and hotels which under certain conditions of defective faucets often produces a sound similar to that of a low toned steam whistle, and fully as loud. Aside from this noise, an improperly supported pipe may also rattle in its supports. This rattling is, however, a very obvious nuisance and easily traced to its source.

Mufflers and exhaust pipes should be dismounted and thoroughly cleaned every season. The accumulation of soot, rust, and scale is surprising, and of course eventually results in serious back-pressure. Neglected mufflers will sometimes become so badly fouled that the engine will not run at all on full throttle, often causing a great waste of time in searching elsewhere for the reason.

From the foregoing it will be seen how much is to be gained by the short pipe stack exhaust system.

In sailboats with auxiliary engines, the problem is entirely different. Many features which would be intolerable in a motor boat fade to minor importance owing to the fact that the horsepower per ton (displacement) is infinitely less, and that the engine is only running a small percentage of the total time under way.

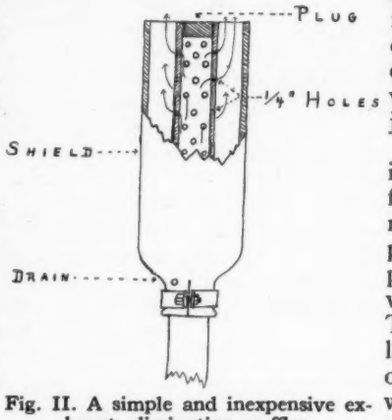


Fig. II. A simple and inexpensive exhaust, eliminating muffler.

The two most serious problems to be overcome are sea water and fire hazard. The first is increased by the angle of heel when under sail on the wind and by the relatively slow speed off the wind in a heavy sea and relatively light wind, both conditions tending to force sea water into the exhaust pipe whether a side or stern exhaust is used. To guard against this the usual arrangement of exhaust line is so disposed that at one point it is considerably higher than the point of final discharge, and of course much higher than the engine exhaust port (which is usually below the water line). This arrangement is only partly satisfactory, for, so long as the exhaust opening *can* submerge at any time, sea water *will* find its way in and finally reach the cylinders, in spite of all the loops and traps that man can devise. Many people have tried the heroic expedient of corking the exhaust opening with a wooden bung when the engine is not in use. This is, if properly done, a hundred per cent effective, but so awkward and difficult to accomplish, and entails such disastrous results should the bung be inadvertently left in when the engine is started, that it is soon abandoned. Various one-way valves and flaps have also been tried but with little success, as corrosion and soot soon make them inoperative.

The only practical solution lies in an exhaust opening which positively *cannot submerge*. As a stack is out of the question on a sail boat, there seem to be but two practicable solutions: first, what for convenience we will term the English life-boat system, shown in Fig. III; and second, in the case of ketches and yawls, the possibility of utilizing a hollow steel mizzen.

The system shown in Fig. III consists primarily of a straight pipe which runs right through the hull athwartships and slightly above the normal water line, the exhaust pipe from the engine is carried straight up, as the bridge deck or engine room trunk will permit, is then swept downward and brought to the middle point of the aforesaid athwartships pipe, into which it discharges. This "gooseneck" must, of course, be water jacketed, a by-pass from the circulating water being used. In order to prevent undue loading of the circulating pump, the main discharge of the circulating water is effected through a similar "gooseneck," as shown in Fig. III.

As will be seen from the sketch, this system gives a free exhaust and water outlet under all possible conditions. Life boats so fitted have been known to roll completely over without stalling the engine. It has, however, certain minor disadvantages, namely: the athwartships pipe is apt to be very much in the way, cutting up an already overcrowded engine room, and also the usual objection to all hull outlets, that the gases blow across the deck into the helmsman's face. A muffler may be fitted in the lower part of the gooseneck, in which case it must be water jacketed, or, two mufflers may be fitted, one on either side in the athwartships pipe, in which case they need not be water jacketed.

The stack exhaust, in a modified form, is often used in Dutch and Scandinavian fishing boats and yachts. This arrangement, which is extremely simple and practical, consists in running the exhaust pipe straight up through the deck, above which it projects about thirty inches. The hole in the deck is several inches larger than the pipe and is fitted with an ordinary section of stove pipe capped with a Liverpool head. This system, while non-submersible, is extremely unsightly owing to the necessarily large stove pipe and hood and, furthermore, the said stove pipe is apt to be so situated on the bridge deck or cockpit floor as to be very much in the way, to say nothing of the risk of fouling the main sheet. This system is also open to the same objection as the life-boat system, namely that of gassing the helmsman.

The best solution of all would seem to be that of the hollow steel mizzen. This system has been in use on larger vessels abroad for many years, and is entirely successful. It has all the advantages of the long pipe, with none of the disadvantages. The mast is capped with a steel truck and perforated just below the truck in much the same way as the exhaust pipe shown in Figs. I and II, dispensing, of course, with the shield. No muffler is required. This system as applied to yachts would be the most expensive and require a great deal of care in the water jacketing, internal or external, of that part of the mast which is below decks, each individual installation being a separate problem. If properly done, however, it would seem to be the best system of all.

In general it may be said that there is no valid excuse for a motorboat to be noisy or for an auxiliary to be troubled with water in the exhaust pipe and cylinders.

Class R Boat Changes Hands

Charles Francis Adams has sold his last year's Class R champion *Dandelion* to J. R. Stebbins, of Watertown, N. Y., and will race his new 20-rater at Marblehead the coming season. Mr. Stebbins has been sailing the *Kathea*, formerly *Hayseed VII*, on Lake Ontario during the past two seasons.

A Practical Reduction Gear for Marine Motors

The Development of a Device to Permit the Use of High Speed Motors in Heavy Boats

By JOHN T. ROWLAND

CRUISERS ahoy! Here's good news for us all. The long-wished-for combination of a light, compact and powerful motive plant for cruising power boat or auxiliary seems to have been realized through the reduction-gear idea.

Not that compact and powerful motors have been lacking to drive the screw direct; but the trouble is that for many forms of hull a slow turning wheel is essential, and until now that has always necessitated a heavy duty motor, or at any rate one of considerable weight and bulk, except where specially built reduction apparatus has been installed at great expense. For while engineers have long realized that the high speed engine is a far more efficient machine so far as size and weight are concerned, they have not been able to find a commercially successful way of coupling it to a slow turning screw — the old, old problem of hitching a race horse to a plow.

For turbine-driven steam vessels this anomaly was accomplished some years ago by introducing geared reduction drive, whereby the almost incredibly high revolution speed of the turbine was transformed into a usable number of r.p.m.'s on the shaft. We still remember our amazement on being shown the cruising turbine of a destroyer and discovering its size; offhand we should have said it was a valve case. And incidentally it may be mentioned that the singing of this outfit is only partly chargeable to the gears: most of it is due to the high speed of the little turbine itself. For some reason the geared drive did not recommend itself to gas engine design, but some yacht builders, particularly the British, put a chain drive in their deep cutters, where the narrowing of the hull below the waterline made it impracticable to mount the engine in line with the shaft. This gave them a chance to gear the shaft down and use a comparatively light engine, which resulted in a saving of weight and space. Our builders have been slow to follow this idea, perhaps through lack of confidence in chain drives; but the writer examined the Luders-built sloop *Dyon* and was impressed by the gain in compactness and accessibility of her motive plant, which followed the British practice just described. Nevertheless it is doubtless true that in most cases a better solution would be found in a geared reduction drive fitted as an integral part of the motor. Mechanically this arrangement is far superior, and it would suit better the ordinary hull of moderate depth. The difficulty has been to design and build such a gear.

Several motors so equipped were on exhibition at the recent Motor Boat Show. The writer studied them with great interest, chiefly from the sailorman's point of view. It can no longer be denied that a motor is essential to cruising, but we, for one, have always resented giving up room to it in a sailboat. This is due principally to the fact that sailing hulls are heavy and hard to drive, requiring a coffee-mill of imposing bulk. We have dreamed of the day when we could tuck away a little toy in her innards and buzz along with the best. And now this day has dawned. Incidentally, everything we have said about the auxiliary applies with only slightly less force to the cruising power boat of moderate size.

The Erd Motors Corporation had on exhibit one of their S-4 stock motors equipped with geared reduction drive. Because this was exposed for examination we shall confine our description to this particular machine, but it should be stated that the Jule, Kermath, Scripps and Hall Scott concerns also showed engines with reduction gears.

The S-4 is a 58 h.p. motor of the compact, high speed type. A twin-disc clutch is bolted to the flywheel. Behind this and firmly secured to the after end of the engine is a gear box which appears to take up less room than the orthodox clutch. It is simple, sturdy and, so far as we could see, absolutely fool-proof in all its parts. The gears are constantly in mesh and selection is obtained by means of sliding keys actuated by a lever. Since one key frees before the other engages there is no danger of a clumsy operator stripping the gears by going into two positions at once. The keys are made of material having a compression capacity of 25 tons and are incapable of being distorted under any possible stress. They move in a slot in the shaft and engage in notches cut into the inner circumference of the gear wheels, next to the shaft. When the key is shifted it slides and locks in the selected gear regardless of engine or propeller speed, and while there is no danger of its working loose it nevertheless shifts freely and will not bind or jam. The gears themselves are of the herringbone pattern and give a steady, silent transmission; they have a 2¼-inch face and are made of chrome nickel steel hardened by a secret process. The top clutching gears are mounted on hardened steel shafts turning on ball bearings, the lower gears on roller bearings. Lubrication is positive and the whole construction is so rugged and well designed as to seem virtually indestructible. There are three positions: ahead, neutral and reverse. No provision is made for direct drive, since the whole purpose is to provide reduced shaft speed in the ahead driving position. While a choice of speeds ahead may occasionally seem desirable, as when one runs from smooth water into a steep head sea, there is really no need for it, and probably never will be unless boats take to climbing hills. At any rate, we should not ask too much all at once.

A one-to-two or one-to-three ratio may readily be secured through a reduction gear of the type just described, and while there is no need to have both ratios contained in one box there is a genuine reason for being able to choose the degree of reduction desired for a given job. Given a lean, sharp hull and a full, squat one, both equipped with the same power, it goes without saying that the former will take a higher propeller speed than the latter. For this reason we hope that the firms turning out reduction-drive motors will carry a selection of gears in stock. In that case it will be possible to choose one's propeller scientifically — since for every combination of hull and power there is just one best wheel — and take up the difference of speed in the gear. Too often nowadays the propeller has to be adapted to the motor's *speed* rather than its *power*, with the result that it is not the one best suited to drive the hull. Or else we adapt the motor to the wheel and load the boat down with excess freight.

There is a perfectly legitimate field for the heavy-duty engine, and always will be; but without casting unfair aspersions it may be stated that their place is not in small yachts where space is scarce and weight not wanted. Therefore if the geared motor works out as well as it looks and the gears stand up under steady use without becoming noisy, this innovation is certain to prove a great boon.

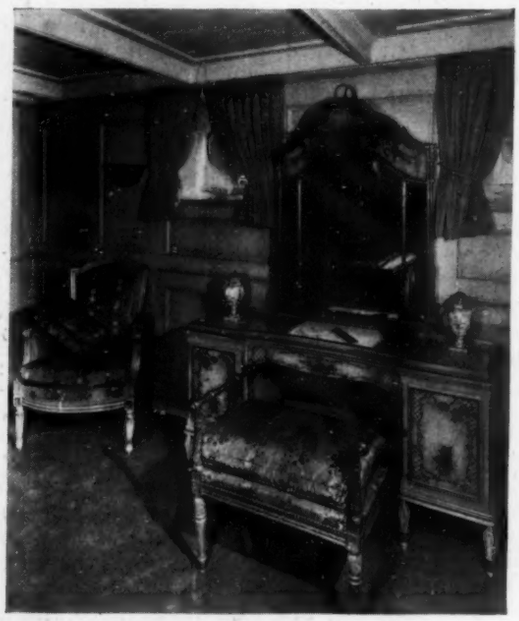
New York Galleries, Inc., decorators *Photos by M. E. Hewitt*

Mr. Vanderbilt's cabin on the *Ara* is not only suited to the owner's needs but is proof that utility may assume an attractive form.

Furnishing and Decorating the Yacht

Recent Changes in the "Ara" Show What May Be Done to Add to the Attractiveness and Individuality

READERS of YACHTING may remember that the Diesel yacht *Ara*, owned by Mr. W. K. Vanderbilt, was described, both technically and otherwise, in the issue of May, 1924. In view of this fact, any further account of her may seem to demand something by way of justification. However, there are several reasons why any recent information concerning her, or her movements, continues to hold the interest of yachtsmen. One of these is the fact that Mr. Vanderbilt uses the *Ara* for collecting rare specimens of sea life, often making long voyages in her for that purpose. His collection is fast becoming one of the most important in this country. Furthermore, *Ara*, on her own account, justly may lay claim to consideration. Built in England in 1917, by Camper and Nicholson, she stands as one of the finest yachts afloat. And so when several of her staterooms were redecorated not long ago preparatory to a cruise to the Galapagos Islands, the event seemed worthy of a few additional words of description.



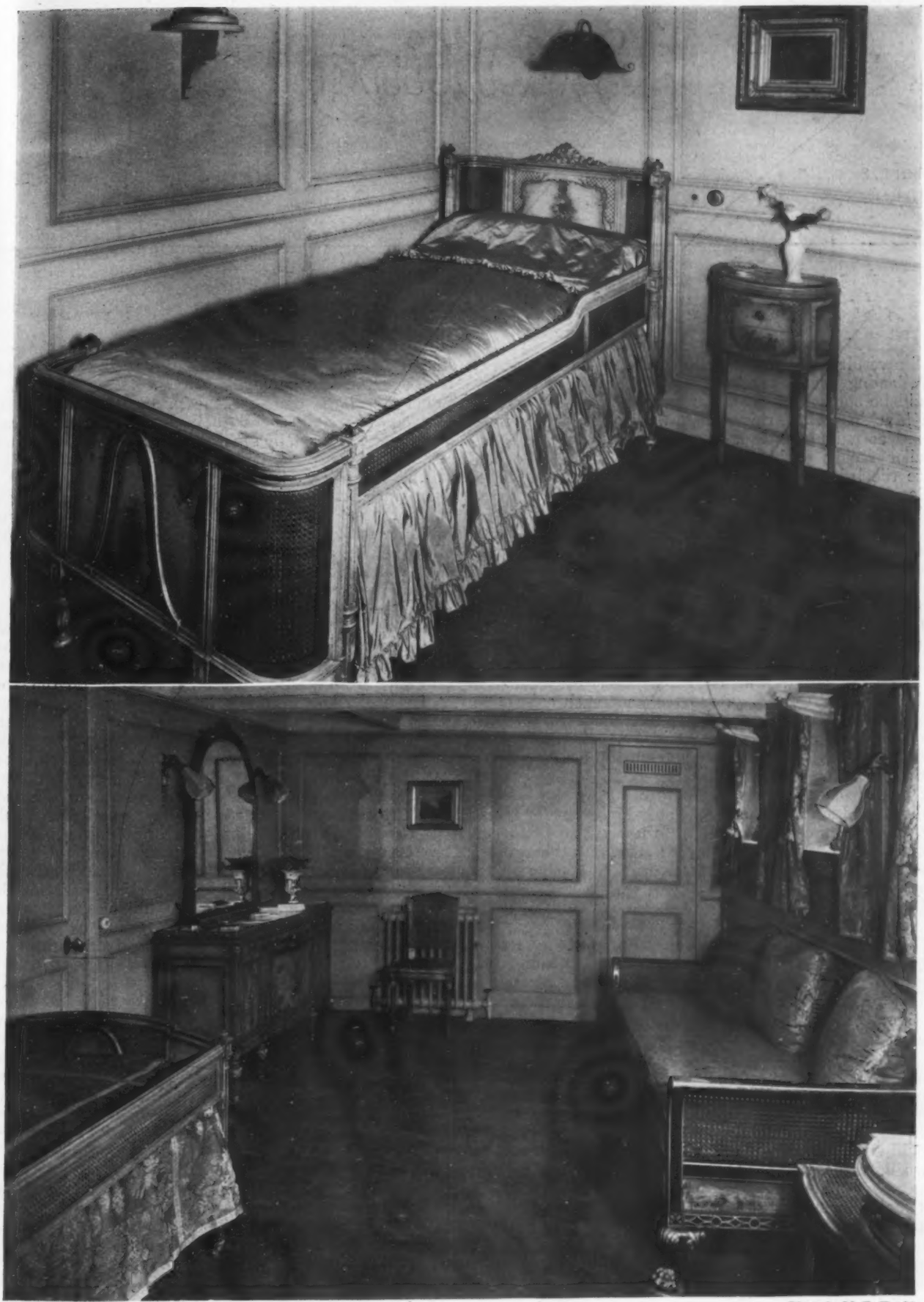
A corner of a guest stateroom on *Ara*.

The *Ara* was originally decorated and furnished in England, and her appointments were stamped with the sportsman's thorough knowledge of his needs. She was well fitted out in the sense that her furnishings were durable and, obviously, capable of withstanding the strain of the elements and of living at sea for long periods. The present decorations were undertaken, not with the intention of impairing or minimizing their utility, but of combining it with added attractiveness and individuality.

Unavoidable limitations of size made it imperative to take advantage of every known ruse by which a sense of space might be simulated. Therefore, the old axiom of contrast between background and furniture was disregarded as tending to contract the size of the staterooms. In the present instance the furniture melts into the background without noticeable break and, as a result, every inch of space counts to the utmost.

The owner's stateroom is sufficiently free from trivialities to be

(*Continued on page 105*)



New York Galleries, Inc., decorators. *Photos by M. E. Hewitt*

Top — A guest stateroom of the ***Ara***. The furniture is unmistakably of French extraction and the cabin is compact and snug.
Bottom—The furnishings of the owner's stateroom on the ***Ara*** prove that utility may often assume an attractive form.

Yachting

Herbert L. Stone, Editor

Samuel Wetherill, Associate Editor

Editorial

Proposed Changes in the Mackinac Race

AS a result of agitation by the Lake Michigan sailors, lasting over several years, it looks now as if there would be some wholesale changes in the conditions for the Mackinac Race this summer. While originally conceived as a long-distance race for cruising yachts, the smaller racing yachts have been entering this event since the bringing of the first Universal Rule boats to Chicago, and have been running away with the prizes. This is where the shoe pinches, for the majority of sailors on the Lakes feel that this 330-mile event should be a competition for cruisers, just as the Bermuda Race is on the Atlantic coast, and not for light displacement racing yachts, such as the P's, Q's and R's, against which a heavy cruiser has no show except in exceptional weather. No system of time allowance has yet been found to equalize racing between the two types.

So it looks as if the racing craft will be kept out of this year's event, and, instead, will be given a race from Chicago to Sturgeon Bay, or over some such course. It is said that of the boats available for this year's race, 41 are cruisers and 7 are of the racing type. Certainly this looks as if the race might be confined to the former class without hurting the entry list. Surely the racing yachts get plenty of other chances to race during the season, while this Mackinac Race is the only big event for cruisers. The racers could, therefore, in fairness to the other yachts, be barred from this event. The only thing, now, is to satisfactorily define a cruiser. In this the committee may run against a snag.

Early Preparations for the Bermuda Race

THE value of thorough preparation for any ocean race, such as the one to Bermuda, starting June 20th, is perhaps underestimated by those who have not sailed in one of these events. The history of the last two races to the "Onion Patch" proves this, when in both cases the most thoroughly prepared boats won, or made a better showing than those who started without full comprehension of what would be needed on a long offshore voyage. It is, perhaps, safe to say that preparation counts fully 90 per cent toward success.

In the first place, the gear must be of the best and should be thoroughly overhauled before starting. Old or worn halyards, standing rigging that will not stand the strain, or an incomplete equipment of proper sails do not make for success. Light reaching sails are especially important on a run to the Islands in June. These should consist of ballooner, several sizes of main staysails for a two-masted vessel, a spinnaker (although this is a mean sail to handle at sea, unless it is cut high, as there is nearly always a roll to the vessel) and, if possible, a light weather trisail to carry when it is impossible to keep a heavy or gaff-headed sail asleep.

Also the matter of crew should be given careful consideration. Men should be chosen for their ability rather than for their social qualifications. Be sure to take a sufficiently large crew for the proper handling of the ship, allowing for several to be incapacitated, or their usefulness impaired, by sea-sickness. It is rare not to have some members of the crew suffer from this malady, for at least a time.

In the next issues of YACHTING there will be articles on equipping for the Bermuda Race, on the best courses to follow under varying wind conditions, on the methods of navigation and the like, which should be of value to those making the voyage for the first time.

The British Ocean Race Around Fastnet

SPEAKING of ocean racing it is gratifying to note that at the present moment it seems probable that there will be at least two American entries in the 600-mile race from the Solent around Fastnet, off the coast of Ireland, and return. Both of the proposed entrants will sail in the Bermuda Race, then stretch across to the Azores, some 1,800 miles, after a brief stay at Bermuda. From the Azores it is not a long sail to the English Channel. If any more adventurers join the two owners already making plans to cross the Western Ocean in this way, it might be possible to arrange an informal race for the last two legs of the crossing, which would add to the interest of the voyage. The British race starts about the middle of August, so there is plenty of time to make the passage. If anyone is interested in going over for this event, we will be glad to furnish full information and assist in forwarding the project. It would be gratifying to see several representative American cruisers in the race.

Many New One-Design Classes

ONE of the most healthy signs of the rapidly growing interest in yachting is the number of new one-design classes of small yachts that will make their appearance this coming summer. Most of these classes are of inexpensive boats, under 30 feet in length, and they show that there are many persons desirous of getting into racing if the cost is not prohibitive. The cost is, of course, kept down by building to one design and by class rules limiting the expense of upkeep.

Among the new classes formed is one for Long Island Sound, called the Sound Inter-Club Class, with 27 boats building; a class at Marblehead of about the same size, with ten or more boats under construction; a class for the Chicago Yacht Club, also of the same size, about 30 feet over all, called the Eagle Class; a class at Larchmont for the younger sailors, about 21 feet in length, another one at New Rochelle, and one at the Watch Hill Yacht Club, 16 feet long, from designs by Winslow.

In the World of Yachting

R. DE B. BOARDMAN

AMONG the racing yachtsmen north of Cape Cod few have had a wider or a longer experience in all classes of yachts, or are better known, than R. de B. Boardman. Nor is his reputation confined to Massachusetts waters, for since the advent of the Six Meter class in this country he has been conspicuous in three of the international races sailed in that class since 1921.

Like most of our amateur skippers who have achieved prominence in racing yachts, Mr. Boardman, or "Dick" as he is usually called, began his career in small boats, sailing first with his brother, Edwin A. Boardman, on Massachusetts Bay in 1890 in the racing dory "Snipe," and afterwards in the 18-foot and 21-foot classes when those two classes were among the most popular in eastern waters. In 1899 he sailed the successful raceabout "Tunipoo." After an unsuccessful attempt to bring the Seawanhaka Cup back from Canada in 1903 with the "Kolutoo" the "Manchester" was built in 1905, from designs by E. A. Boardman, and she won the Cup for the Manchester Yacht Club that year. He sailed in most of the Sonder Class races in this country from 1906 to 1914, and raced in Germany and Spain in this class in 1907. In 1918 he sailed the Sonder "Sprig." In the larger classes he has also done much racing — for three years in the New York Thirties; in the 46-footers "Shark" and "Adventuress" and lately with C. L. Harding on the schooner "Wildfire."

In the Six Meter class he sailed the "Grebe" in England in 1921, and here, with E. T. Irvin, in 1922. Last year he handled the "Lanai" successfully in the international races against the Scandinavian team.

Mr. Boardman is a member of the New York, the Eastern and the Manchester Yacht Clubs, being one of the founders of the latter organization.

Nineteen Feet of Comfort

A Little Cruiser that has Stood the Test of Time

By HENRY M. DEVEREUX

SOMETIMES one meets a perfect little gem of a cruiser. The *Spray* is my first acquaintance of this sort and I have never regretted our friendship. She is a real little ship — livable and lovable — the kind one long remembers.

All too seldom is so satisfactory a small cruiser found. Fancy three fellows having the time of their young lives cruising around in a comfortable auxiliary of less than 20 feet of over all length. This last spring, under the tape, the *Spray* measured 19′ 4″ over all, 16′ 1″ load waterline, by 6′ 6″ beam, with 3′ 1″ draft. She was designed by Mr. C. L. Johnson, a yachtsman of Easton, Maryland. The plans were entered in a designing contest in 1906, receiving a special prize. Fortunately the designer was able to build from his plans. In measuring her, however, we noticed that many alterations had been made. The little vessel was launched in 1908.

Many people on seeing the *Spray* have remarked on her resemblance to the English cutter type. This is true, but only above water, her lines being according to current American practice. In such a small cruiser, really a boat built around the cabin, a relatively large underbody becomes necessary in order to secure the proper room. And so the 'midship section is deep, with slack bilge and no reverse curve, so as to keep the floor line low. The slack bilge normally would tend to make her sail at a wide angle of heel. It did, and was corrected by extra ballast. The forward sections are deep, with a fair amount of buoyancy. The afterbody is characterized by a moderate reverse curve, enough to squeeze in a small motor. On so small an overall length the waterlines, of course, are very full in the upper body, but those of the underbody show the least bit of a hollow forward. With the big 'midship section and large displacement the bilge diagonal works in rather hard. The tabloid cruiser often becomes a regular tub, but happily the *Spray* avoids it, and the details are combined into an harmonious whole.

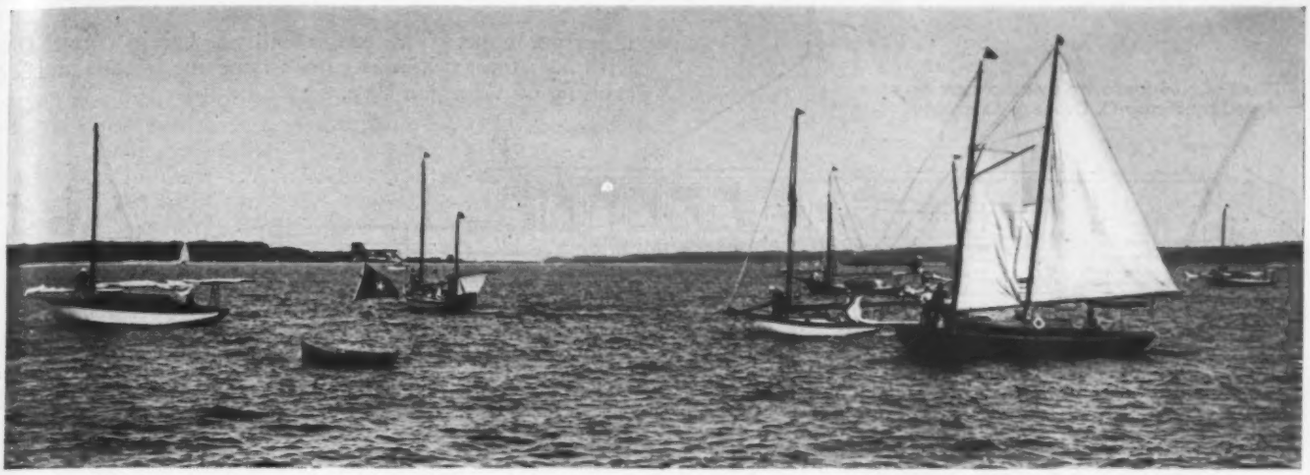
Deck of *Spray*, with Bayside Yacht Club Junior Crew aboard. Left to right, Rufus Smith, Carl Weagant, H. Devereux and Jack Dayton.

A small cruiser like this offers but little chance for variation in the cabin layout, and so the *Spray* is arranged according to conventional practice. There are the two transoms with stowage under, and shelf over, and shelf for more stowage forward. Under the deck, to each side of the self-bailing cockpit, are lockers for food and equipment. At the after end of the port transom is installed the stove. Beneath the cockpit is the auxiliary motor. Previous to 1925 the sail plan was the usual gaff-headed sloop rig, mainsail and jib, with the former vertically cut. From a comparison of the measurements it was evident that at some time the sails had been greatly cut down. They totalled 231 square feet.

***Spray*, a 19-foot cruiser, showing topmast rig.**

Since her launching, the *Spray* has had only four owners. Mr. Johnson sold her to Edward D. Payne, a yacht broker, who sailed her for six seasons, finally selling to Franz Schneider, now the owner of the sloop *Raven*. In the spring of 1924 Mr. Schneider sold her to the present owner, Carl L. Weagant, an enthusiastic young sailor. Carl was a member of the Bayside Junior Crew for 1924 and 1925. He has been sailing for five seasons, and knows how. Seldom does one find so accurate and painstaking a sailor. He is also a first rate companion.

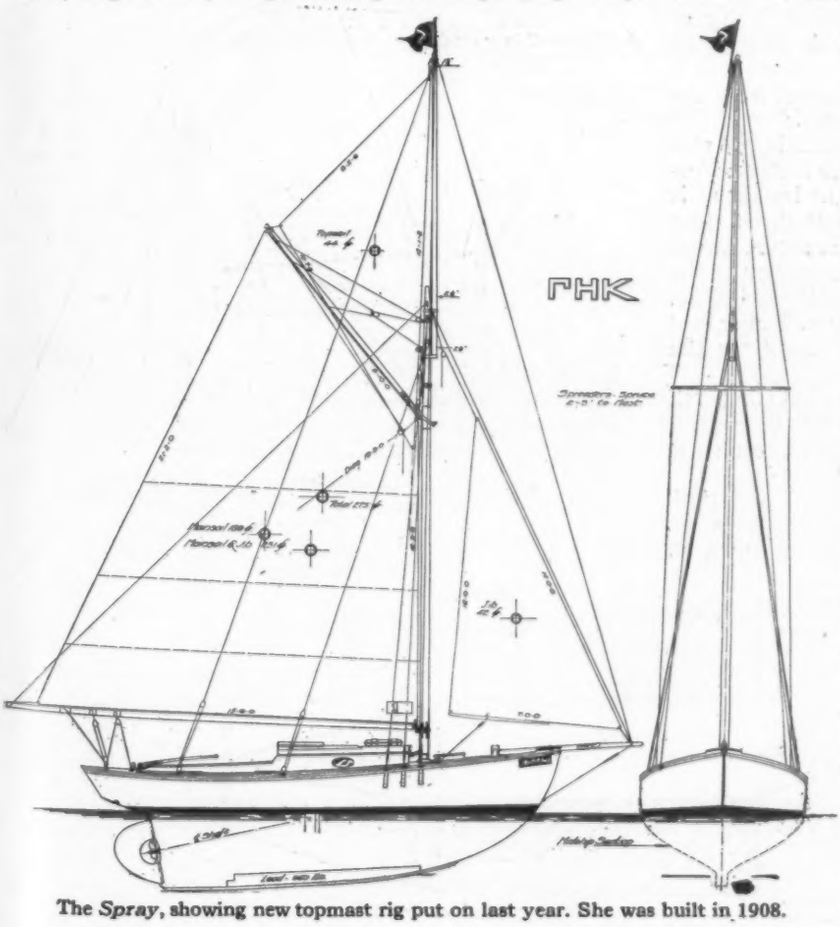
In the hands of the present owner the little vessel has been thoroughly overhauled and brought up-to-date. During her 16 years of existence she had always carried the ballast inside. This was removed, the bilge cleaned of much iron rust, and a piece of lead weighing 950 lbs. inserted in the keel. Next came the installation of the



Weighing anchor for the start of the Huntington Yacht Club Cornfield race. The *Spray* is the third boat from the left.

motor, with the boring of the shaft log. The motor was a 2 h.p., single-cylinder, four-cycle, model YT Palmer, with valves in the head, connected direct to a three-bladed 10″ x 12″ Hyde propeller. After the motor came the Protane gas stove, a most satisfactory arrangement. We pushed the fuel tanks way up into the chain locker, well out of the way. When he sailed her in 1924 the owner felt that the *Spray* was under canvassed, so I designed the new topsail and necessary rigging for him. We put them on at the Bayside Yacht Club dock. The topsail works on a wire rope jackstay. With the extra sail it became necessary to put some of the old sash weights back into the bilge, 240 lbs. of them. For the standing rigging we have found a good way of preserving and improving in appearance the wire rope. A half pint of best spar varnish is used as the solvent for Prussian Blue, enough to well color the varnish. This mixture is then applied to the rigging with a clean rag to make sure that it gets into all crevices. The varnish preserves the wire rope, and the blue blends well with the colors of the boat, and is suggestive of blue steel.

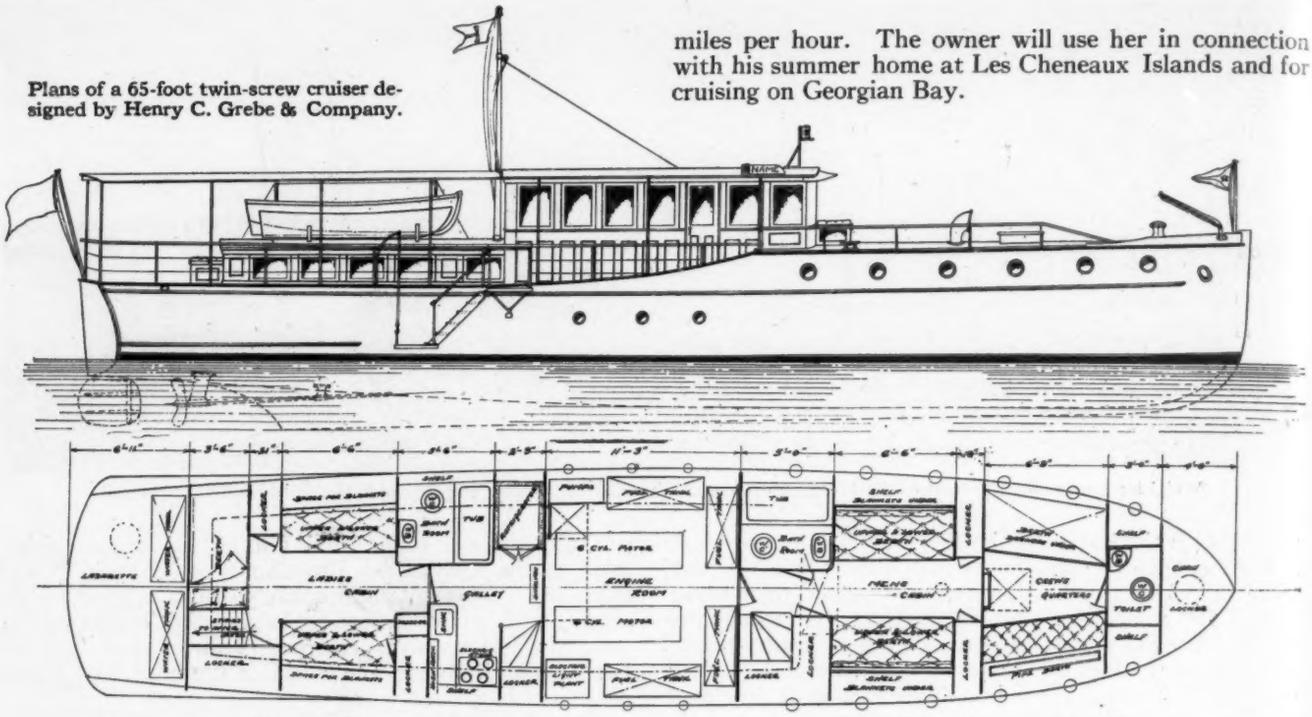
The motor has exceeded all expectations. Under power, turning about 800 r.p.m., the *Spray* reels off five knots. In boring the shaft log we came out exactly in the center of the keel. That's quite an accomplishment for a couple of amateurs. The topsail has worked out finely. It is a success, æsthetically and practically. On a reach or a run, or with a quartering wind, it is a wonder. With a quartering breeze the *Spray* is at her best. When occasion requires we set a spinnaker. In the Huntington to Cornfield Lightship race she carried, in addition to the regular suit of khaki mainsail, jib, and topsail, a red spinnaker and a white ballooner. The extra ballast is most effective. Now we get somewhere. Whereas she used to lay over on her ear, she now keeps to her best sailing lines and travels. We love that feeling of her response to the surge of the elements. What is comparable to it?



The *Spray*, showing new topmast rig put on last year. She was built in 1908.

During her life the *Spray* has seen many places. Her home port is Douglaston, Long Island. She has carried the burgee of the Bayside Yacht Club to every corner of Long Island Sound. In July, 1924, she made two cruises, one to Sachem's Head, the other to Shelter Island. Then, in August, when the Pequot Cup Races were run off at Southport, the Bayside Junior Crew sailed her there and back. And on Columbus Day, at Lloyd's Harbor, she took part in the rendezvous of the Cruising Club of America. By way of starting the season of 1925 a leisurely cruise was made to Block Island and return, which furnished some real adventure in the fog off Block Island. Upon arriving home she immediately set out for Atlantic City, remaining there a week, and encountering much rough weather off Barnegat on the return trip. So, it will be seen, the little vessel has been the means of a wonderful set of cruises.

Plans of a 65-foot twin-screw cruiser designed by Henry C. Grebe & Company.



A 65-Foot Twin Screw Cruiser

HERE are the plans of a 65-foot twin-screw express cruiser of the deckhouse type, designed by Henry C. Grebe & Company of Chicago, Ill., and now under construction at the Burger Boat Company, Manitowoc, Wisconsin, for C. H. Thorne, Esq., of Chicago.

The layout is rather different from the majority of deckhouse cruisers of this length in that it shows a men's cabin forward and a ladies' cabin aft. The engine room is amidships under the deckhouse and is separated from the rest of the boat by two watertight bulkheads.

The forward cabin is entered from the deckhouse and has four berths, a bathroom and three large lockers. Forward of this, and separated by a watertight bulkhead is the crew's quarters which will accommodate three. Just abaft the engine room is the galley, which is entered from the deckhouse. A passageway leads from the galley to the ladies' cabin which has two upper and two lower berths, one built-in berth, a bathroom and plenty of locker and storage space. This cabin can also be entered from the after deck.

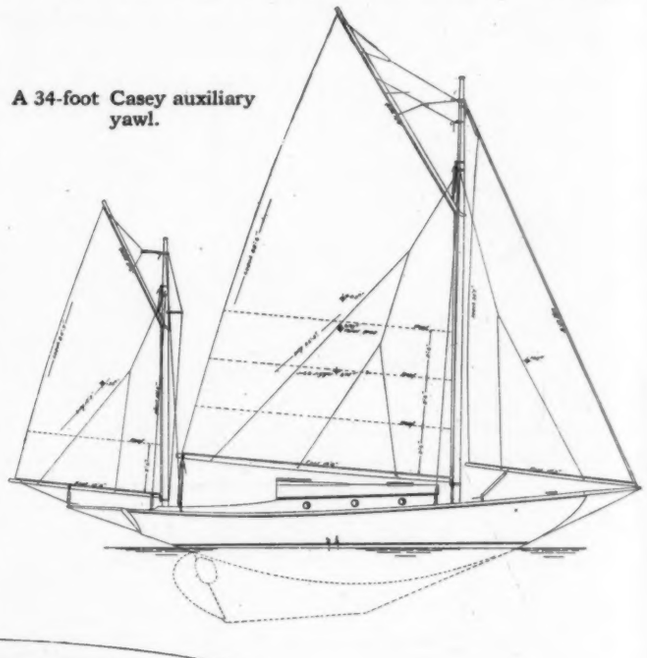
The deckhouse is 17 feet long and has one built-in berth and a transom seat. The engine room has two entrances, one from the lobby of the men's cabin and one on the port side of the deckhouse.

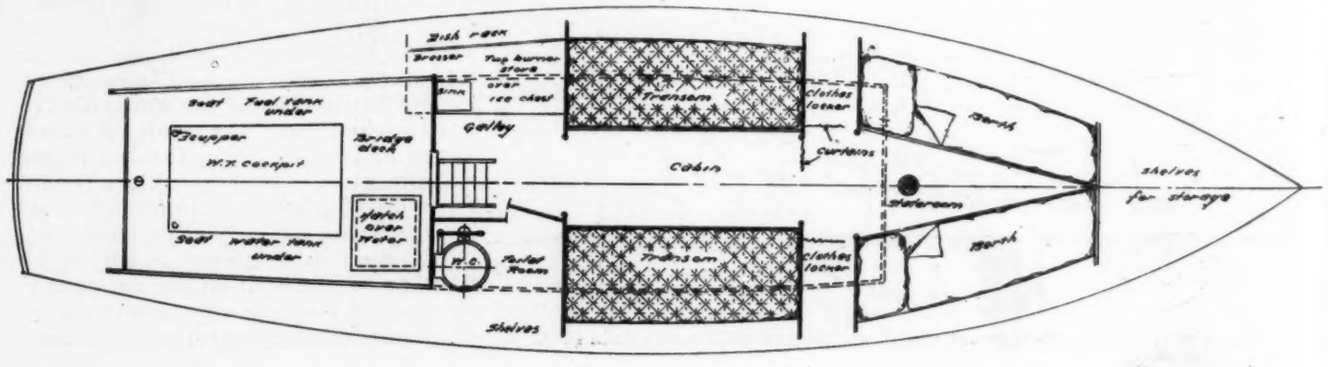
This cruiser is to be 64′ 11″ o.a., 13′ beam and 3′ 9″ draft and will be powered with two 6-cylinder MR Speedway motors which give an estimated speed of 18 to 20 miles per hour. The owner will use her in connection with his summer home at Les Cheneaux Islands and for cruising on Georgian Bay.

A New Casey Craft

Some 2,600 years ago Æsop is credited with saying, "If you stand still you will go backwards." The Casey

A 34-foot Casey auxiliary yawl.



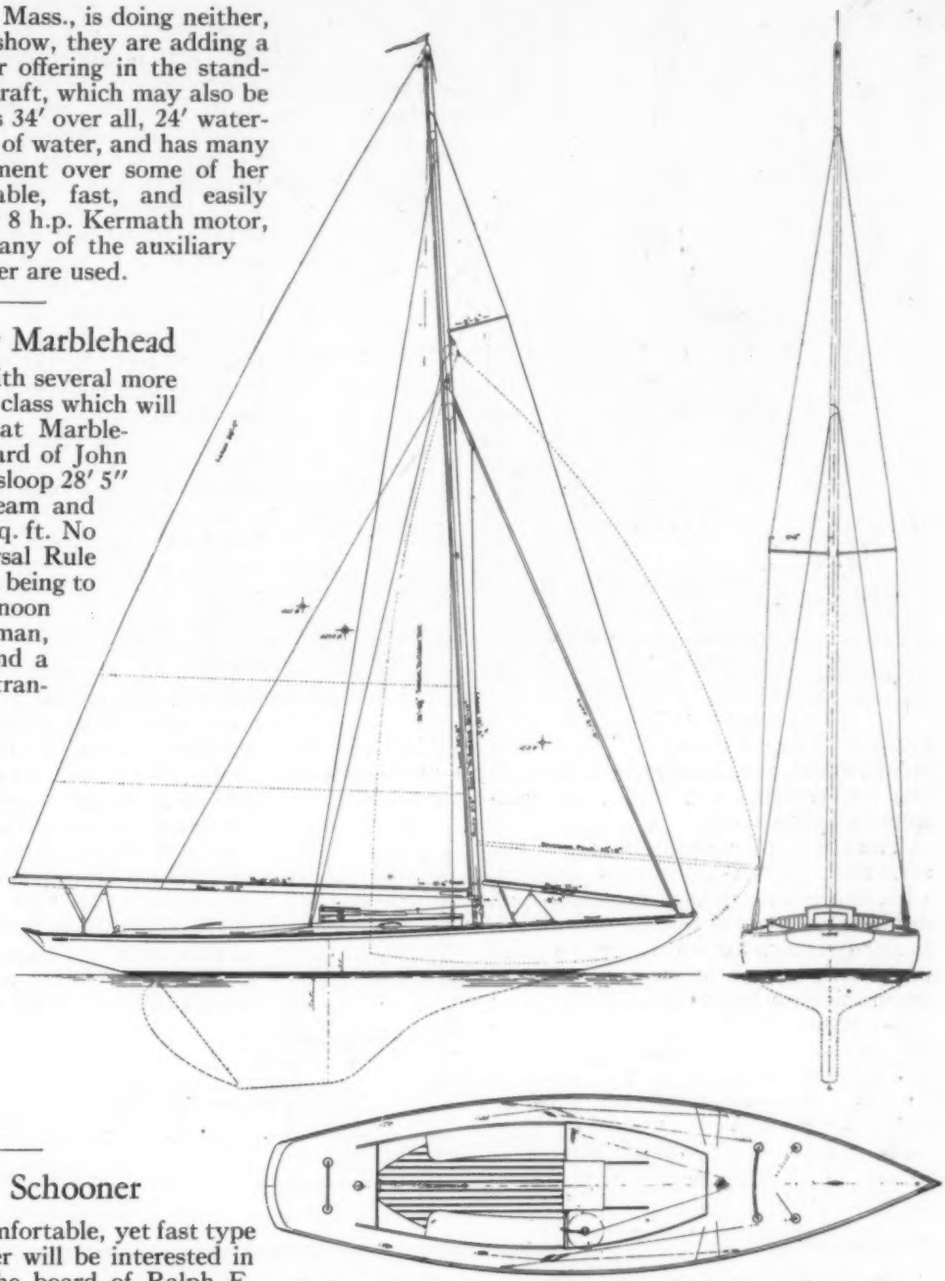


Boatbuilding Co., of Fairhaven, Mass., is doing neither, for, as the accompanying plans show, they are adding a handsome cruising yawl to their offering in the standardized auxiliary line. The new craft, which may also be had rigged as a sloop or ketch, is 34′ over all, 24′ waterline, 9′ 4″ beam and draws 5′ 2″ of water, and has many refinements in lines and equipment over some of her predecessors. She should be able, fast, and easily handled, and with the 2-cylinder 8 h.p. Kermath motor, would be a formidable entry in any of the auxiliary races in which both sail and power are used.

New One-Design Class for Marblehead

EIGHT boats are building, with several more in prospect, for a one-design class which will make its appearance this year at Marblehead. The plans are from the board of John G. Alden, and show a jib-headed sloop 28′ 5″ overall, 18′ 5″ waterline, 7′ 6″ beam and 4′ 9″ draft, and sail area of 407 sq. ft. No attention was paid to the Universal Rule in getting up the design, the idea being to produce as comfortable an afternoon sailer as could be handled by one man, with a spacious, deep cockpit and a small cabin equipped with two transoms for an occasional night on board. The masts will be hollow, and jibs will operate on travellers. The ample beam and freeboard produce excellent room both in cockpit and cabin, and the cost of the boats is far below what it would cost to build a boat of similar rating to the Universal Rule.

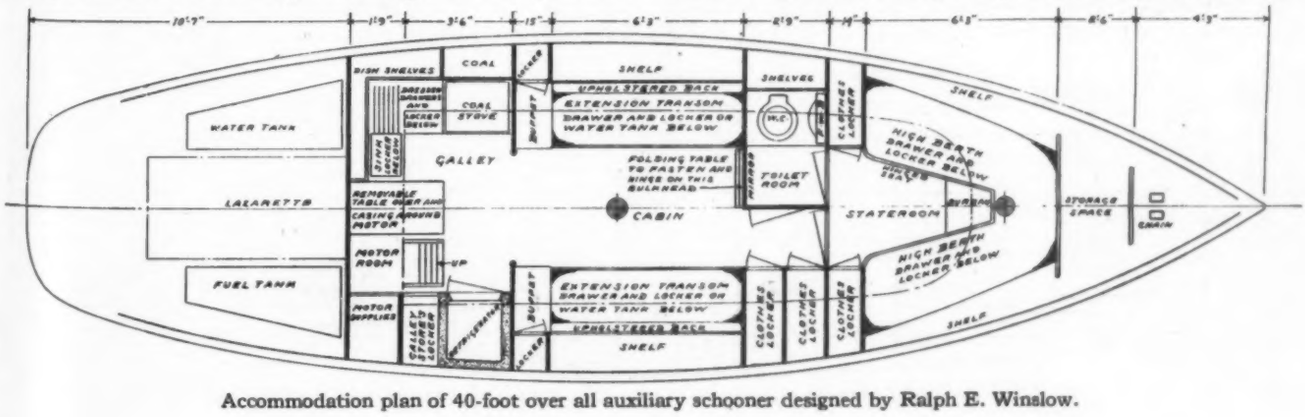
The owners of the boats are most enthusiastic about them, and it is probable that a team race will be arranged with boats of the new Sound Interclub Class, which are very similar in size and type.



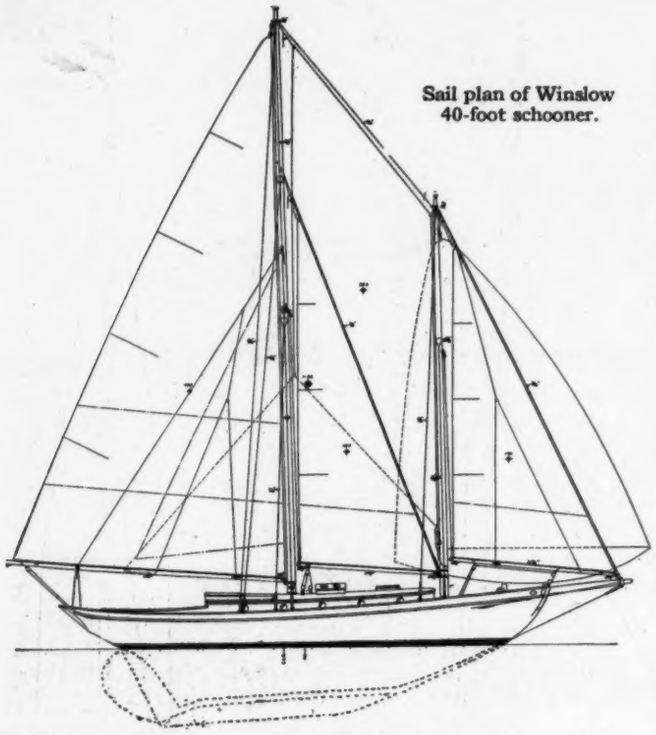
The new Marblehead one-design Class of 18½-footers, designed by John G. Alden.

A 40-ft. Auxiliary Schooner

ADMIRERS of the staunch, comfortable, yet fast type of auxiliary cruising schooner will be interested in the accompanying design from the board of Ralph E. Winslow, naval architect of Atlantic, Mass. This craft is 40′ 3″ over all, 30′ 2″ waterline, 11′ 2″ beam and draws 6′ 4″ of water. The design shows good stability, liberal sheer, with short but sharp overhangs. About 8,500 lbs. of ballast will be carried outside, and about 3,500 lbs. inside. The sail area is 1,122 sq. ft., with a jib headed main



Accommodation plan of 40-foot over all auxiliary schooner designed by Ralph E. Winslow.



Sail plan of Winslow 40-foot schooner.

and the so-called "staysail" rig between main and foremasts, which the designer believes is as easy to handle as the conventional rig, faster, and perfectly feasible for rough weather work.

The cabin plan shows a large galley aft, main cabin amidships equipped with two extension transom berths, and double stateroom forward. A 4-cylinder Scripps motor, driving a Hyde feathering wheel, is expected to give a speed of seven miles an hour.

A Fast Power Cruiser

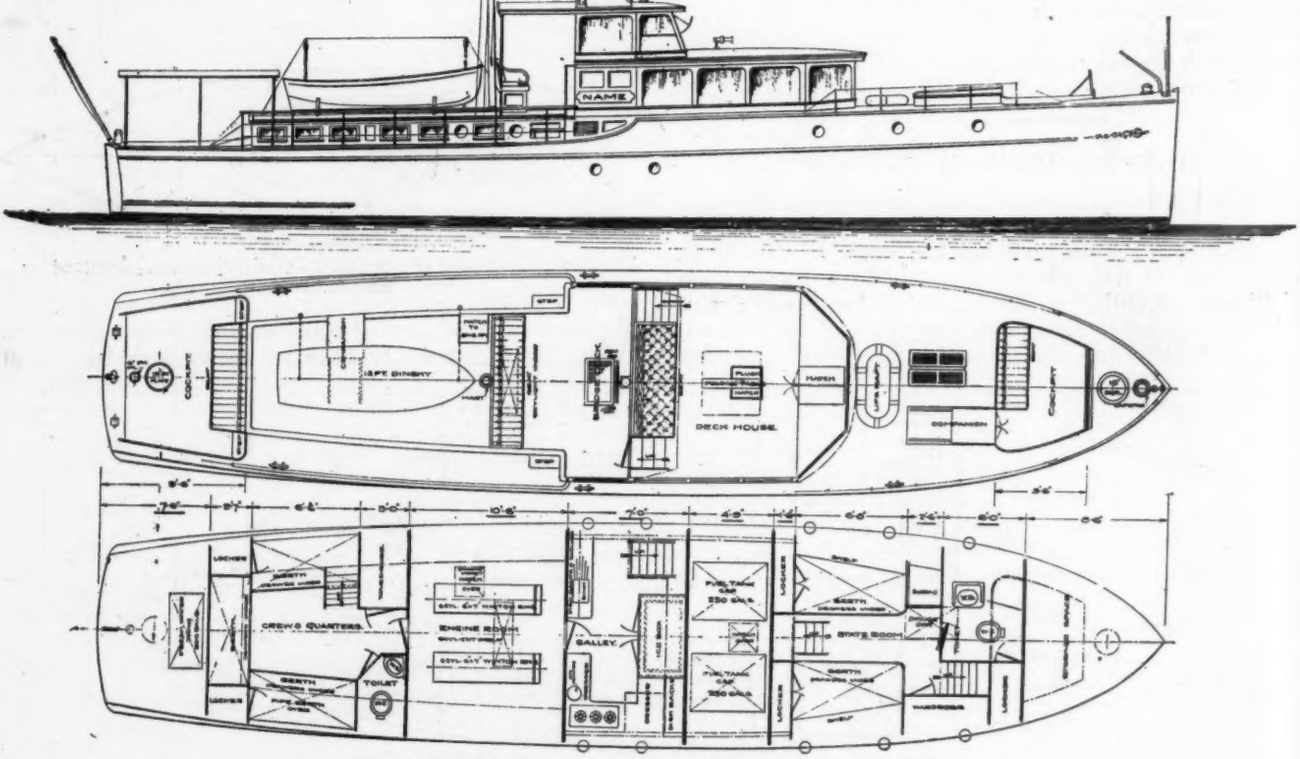
A FAST power cruiser with many interesting features is shown in the accompanying plans by John H. Wells, N. A. This craft was designed for Mr. O. C. Jennings for commuting purposes between Mr. Jennings' home in Connecticut and the New York Yacht Club station in the East River, and is now under construction in the yard of F. D. Lawley, Inc., Quincy, Mass. She is, however, more than a day boat, as the forward cabin is thoroughly equipped as an owner's stateroom, with large connecting toilet room, and the large galley just forward of the engine compartment will take care of any culinary requirements. The engine compartment has full headroom, and has plenty of room for the two 6-cylinder Winton motors. The bridge deck is enclosed forward and on the sides and allows for the comfortable seating of six people. The forward cockpit is equipped with a divan and folding chairs, while the after deck is arranged to take swivel chairs for fishing. Quarters for the crew are aft.

The dimensions of Mr. Jennings' boat are: l.o.a. 67′; beam 13′ 6″; draft 4′. A cruising speed of 19 miles is expected, with a maximum of 23 miles.

A Shallow Draft Auxiliary Schooner

THERE are many yachtsmen who would like a boat suitable for all 'round cruising if they could get a good shoal draft craft suitable for both southern and northern waters, and yet seaworthy enough for going offshore. Such men, as a rule, like to poke their bowsprit into small out-of-the-way harbors, off the beaten track of the usual cruising yachtsman.

An auxiliary to meet these conditions must have certain well defined characteristics. These might be enumerated as follows: (1) Able under all conditions. (2) Very moderate draft to meet the conditions of winter cruising in the south, yet staunchly built. (3) Roomy and comfortable, both below and on deck. A beamy, moderate draft boat lends itself very well to this condition. (4) A



Plans of 67-foot fast power cruiser designed by John H. Wells.

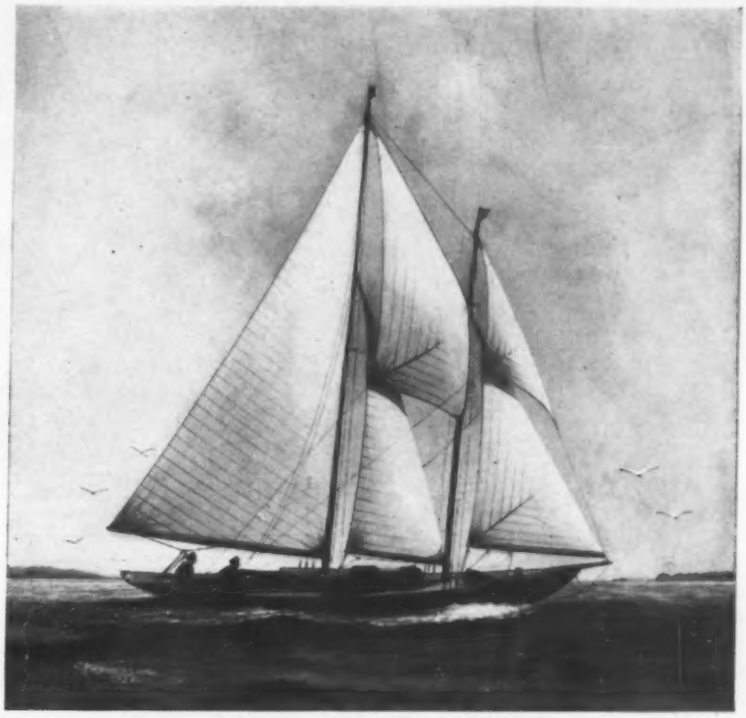
boat that can be handled in all kinds of weather by a small crew. (5) An auxiliary with power to give a wide cruising radius on moderate tankage. (6) A boat that is fast under either sail or power and that will handle smartly.

There has been developed a type of auxiliary on the lower Delaware Bay that very few yachtsmen seem to be familiar with. These boats are auxiliary schooners used in the oyster industry there. Lower Delaware Bay is quite shallow and exposed so that the boats used must be very able.

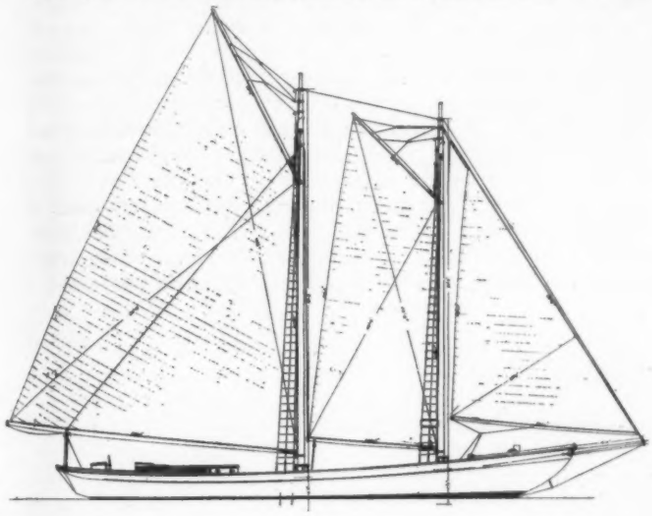
The plans herewith are of an oyster schooner from the office of Thomas D. Bowes, M. E., of Philadelphia, who has specialized in the designing of these vessels, as well as of the shallow draft fishermen use on the Jersey Coast and the Nantucket Shoals. We believe this is the first time the lines of these schooners have been reproduced.

This particular vessel is of the following dimensions: Length over all, 89′ 6″; length on water line, 72′; beam, 22′; draft, 5′ 9″.

With a slight modification a very successful moderate draft, auxiliary cruising yacht of this type could be built, with a little more after overhang, enough increase in freeboard to give larger accommodations under a flush deck and with the draft increased to around 6 feet or 6 feet, 6 inches, with part of the ballast outside and part inside.



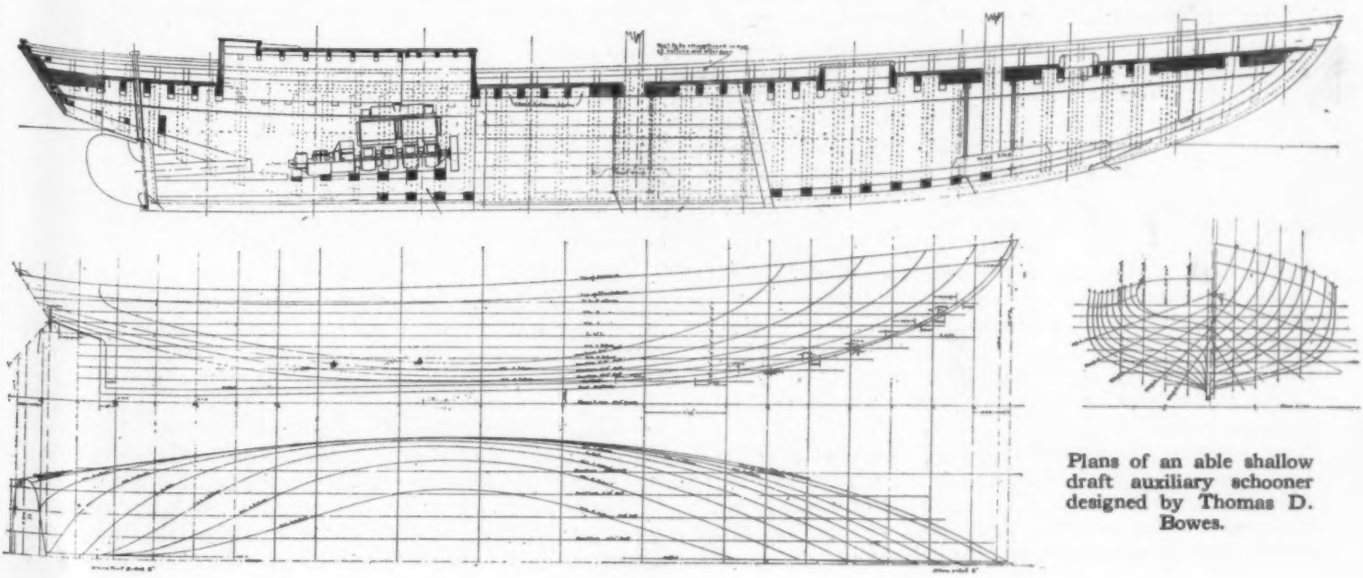
The new staysail rig for the Seawanhaka schooners.



New Rig for Seawanhaka Schooners

AS a result of last season's experience with the Seawanhaka schooners, of which 16 were built for Long Island Sound yachtsmen from designs by Cox and Stevens, the following situation has developed:

The original intention of the designers was to produce a comfortable auxiliary schooner with moderate sail plan, fast enough to give good sport when racing as a class, but in no sense intended for regular Long Island Sound open racing. Heavy, substantial construction was provided, and reasonably full bodied hulls were built, so as to produce good sea boats and provide comfortable living quarters. No attempt was made to sacrifice weight and equipment at the expense of comfort. Engines capable of driving the schooners at 7 knots were installed, also ample tank space for water and gasoline as well as complete cruising equipment. (*Continued on page 105*)



Plans of an able shallow draft auxiliary schooner designed by Thomas D. Bowes.

In the Lee of the Longboat

by Cap Stan

THE new system of time allowance adopted by the Bermuda Race Committee for the contest this year — 45 minutes per foot for the course — seems to be just about right, in view of the results of the last two races. In 1923 it was an even hour per foot. This was thought to favor the small boats too much, so in 1924 the time allowance tables were used, with the result that allowances were cut practically in half. Believing that this time the little fellows were treated a bit roughly, the 45-minute-per-foot method will be given a tryout this year, resulting in allowances about midway between those of 1923 and 1924. This seems perfectly logical, and I expect to see some close groupings of large and small boats on corrected time as a result.

There should be some grand scrapping in Class A, all right. The two Seawanhaka schooners are even up, on paper at least. And there are six or more schooners within a few feet of their length, and close to the same sail area, which should make it hot for the Seawanhakas. And with a lot more entries due between now and June 20th — well, may Lady Luck smile on the best boat with the best crew.

* * *

A whole flock of people did their winter sailing at the Motor Boat Show, and while it wasn't quite the same thing as Southern cruising, it at least whetted the appetite of the crowd to the point where they began to think seriously about the sailing season soon to start. Along with the horde of merely curious folks was more than a sprinkling of those who had been badly bitten by the nautical bug, and many were the purchases, small and large, made on the spot, with a lot more in prospect before summer comes.

As I anticipated, the Jule horizontal opposed motor was mighty interesting. It's a husky looking brute, and if it works out as expected, it should be installed in a lot of hulls before long. The outboards were conspicuous for the many improvements incorporated in the 1926 models.

Windjammers found a toothsome morsel in the new Waterflex yacht rope, which doesn't swell, kink, or absorb water to any extent. What joy to have a kinkless halliard or sheet, and one which won't swell and jam in a block at a crucial moment!

The reduction gears went over big — everyone seemed to be all het up over them. The Erd and Jule gears were the magnets which drew the biggest crowds, for they were wide open for the public to gaze upon, whereas the other three or four gears were carefully housed in, and no one seemed able or willing to explain the wheres and whyfores. There seems little doubt but that reduction gears have come to stay.

* * *

Right now it looks as though there would be two American entries in the British Ocean Race next August. George Woodward, Jr., owner of the 60-foot Watts-designed schooner *Quita*, has entered his craft in the Bermuda Race, and intends to keep on across and take a crack at the Limeys. Then I hear that some Harvard students intend to take the 50-foot Alden schooner *Primrose IV* across for a tryout with the Britons.

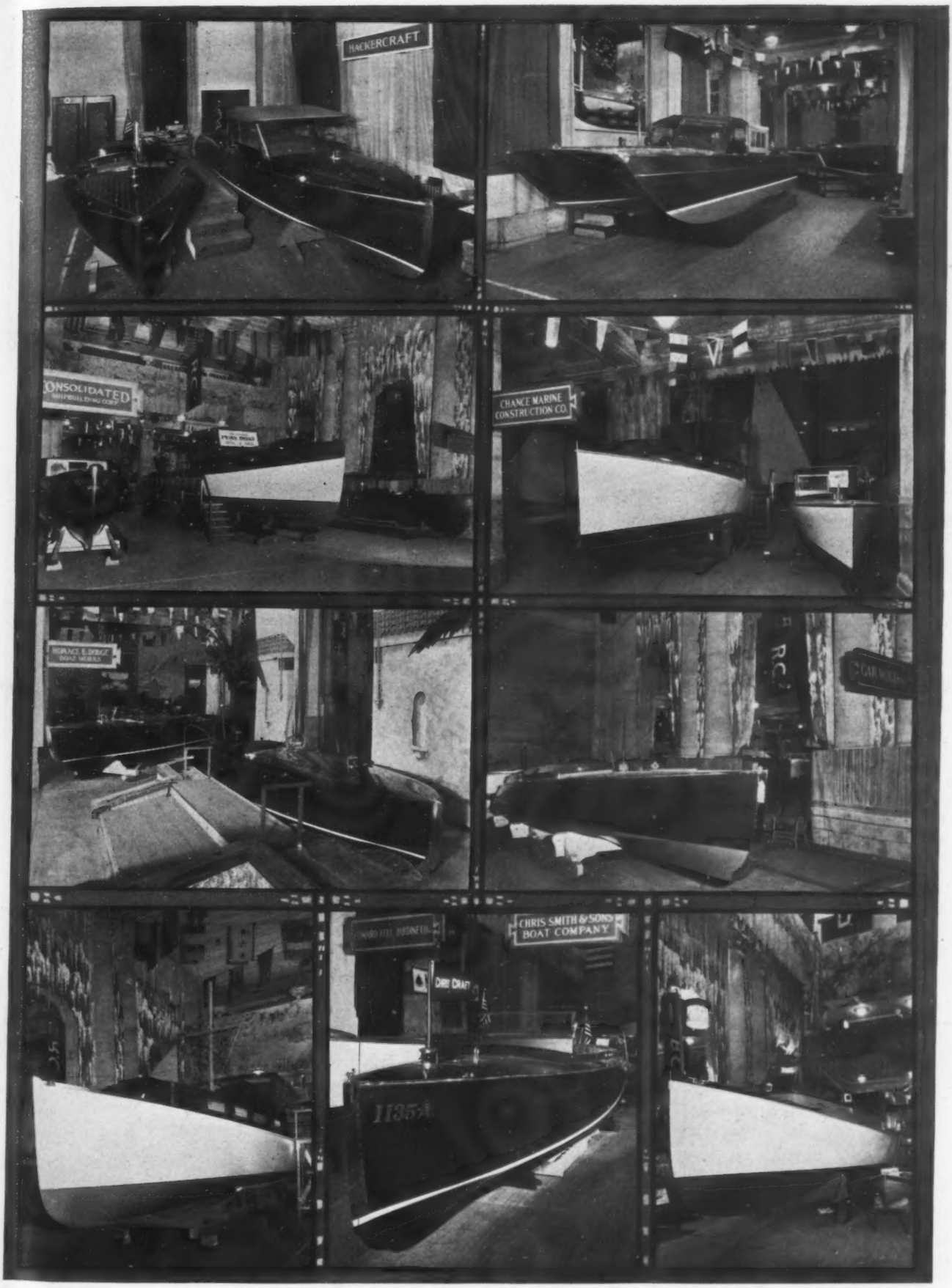
Of the two, *Primrose* is the best bet by far. She's a sister boat to *Gilfan*, designed about 1921, and though not nearly so fast as some of the later *Malabars*, should give a good account of herself if reasonably well handled.

* * *

As I might have expected, my paragraph last month on reversing and feathering wheels was misunderstood by a few people who do not know the difference between the well known *feathering* type, such as the Thompson and Hyde, and the *reversing and feathering* type, like the Bolinders. So, to explain a bit: The *feathering* wheel feathers, when not turning, by the action of the water against the blades; it reverses by means of the conventional clutch; there is but one pitch for going ahead, another pitch for going astern, and no neutral position. The *reversing and feathering* wheel, on the other hand, alters the position of the blades by mechanical means to any desired pitch from ahead, through neutral, to astern — or any in-between position. The pitch can be varied at the will of the operator. So, the Thompson, Hyde and other *feathering* wheels are one thing, while the *reversing and feathering* wheel, such as the Bolinders, is a distinctly different proposition.

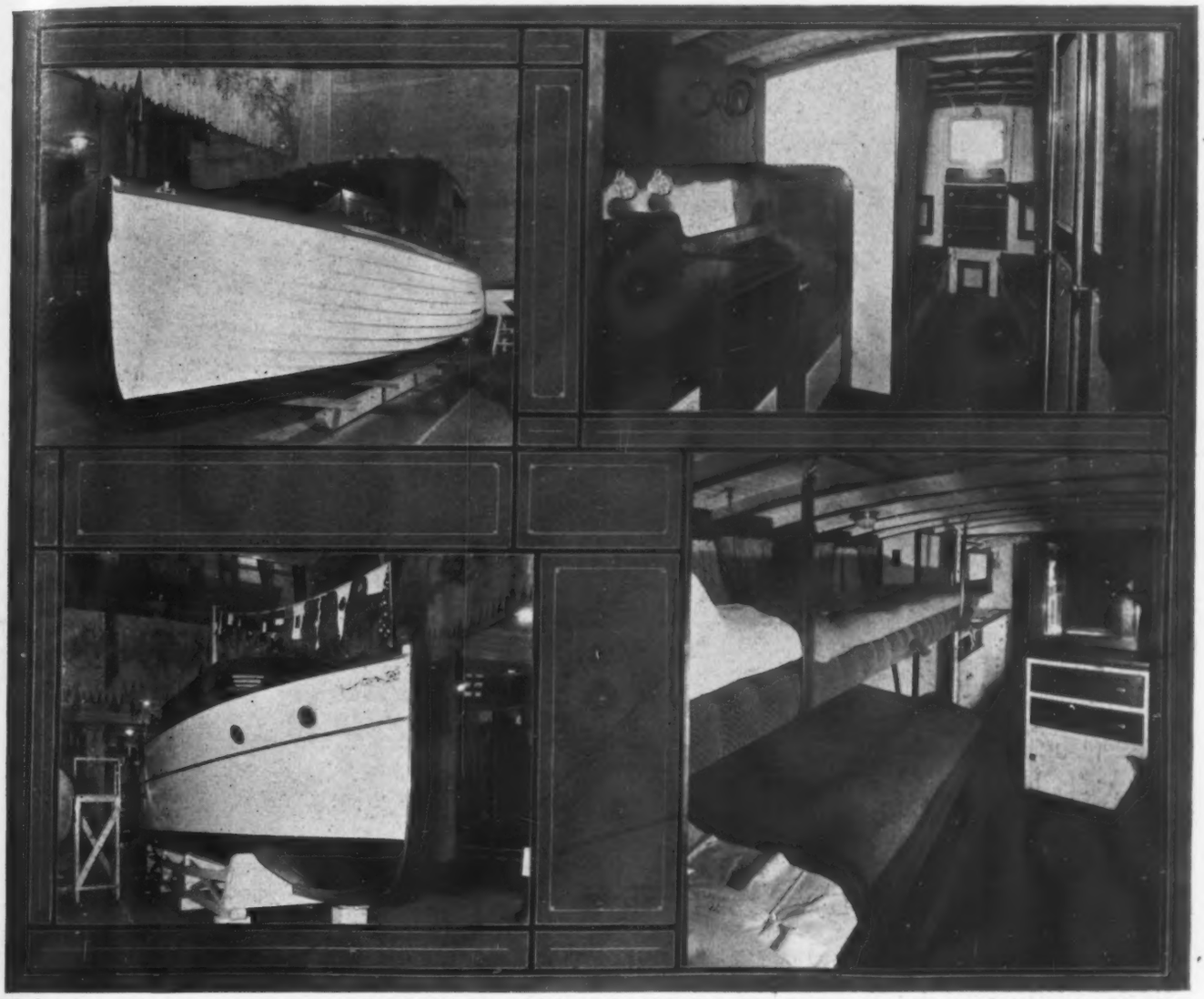
* * *

Although I have some eight or ten books on navigation in my nautical library, I have just made an addition in the shape of Professor Hosmer's new book, *Navigation*. Some treatises on the subject are fearfully technical, others are old and more or less obsolete, while still others are incomplete and unsatisfying. But Professor Hosmer's book just suits me. It explains everything, from beginning to end, in a simple yet forceful way. It is complete and up to date, giving Sumner, Marc St. Hilaire, H. O. 203, and uses the new time adopted in the nautical almanac. Beginners and experts alike should thoroughly appreciate this newcomer.



Some of the boats seen at the recent Motor Boat Show. Top (left) Hacker Dolphins. Top (right) Sea Sled. Consolidated tender and Play Boat. Chance 35-foot cruiser. Dodge Watercar. Baby Gar runabout. Lawley 38-foot cruiser. Chris-Craft runabout. Matthews 38-foot cruiser.

A line of power plants at the Motor Boat Show to meet every need. Top (left) Sterling. Top (right) Kermath. Erds, with and without reduction gear. Buda motors. Packard engines. Hall-Scotts. Elto outboard line. The Johnson outboard equipment.



Top. Exterior and interior of Kobcos 32-foot Seabright model cruiser, exhibited by Kotick Boat Company. Bottom. The American Car and Foundry Company's 45-foot cruiser.

Seen at the Motor Boat Show

An Unusually Interesting Display of Boats, Engines and Accessories at the Twenty-first Annual Exhibit

THE Twenty-first Annual Motor Boat Show has come and gone. It is a far cry from those early Shows held in Madison Square Garden, in order to introduce to the general public the new type of power for marine purposes that was then just being perfected, to the highly developed power driven craft and internal combustion engines seen the last week in January at the Grand Central Palace. To one who has seen most of these annual exhibitions since 1903, the development in both power plants and boats has been not one whit less remarkable than in the automobile field. The development has, however, been so gradual that one is apt to lose sight of the tremendous growth and change that has come in the last 23 years.

This year's Show was, without doubt, the most interesting ever put over by the National Association of Engine and Boat Manufacturers. In the wideness of its scope, in the general excellence of the exhibits and in the attractiveness of the settings it reached the high water mark.

A stroll through the Palace discovered so much that was worth while and so many things to interest the man who takes his recreation upon the water, that a complete description of the boats and power plants seen there is well beyond the limits of a single article. Only the high spots can be touched.

In the high-speed runabout field the manufacturers evidently feel that this type of boat is going to push the motor car hard, not only for pleasure purposes but also as a means of fast transportation wherever the water conditions make this possible. There was a wide variety of choice in the fast runabouts shown this year, both in speed and in price. In the latter connection, the price of really high speed craft, say from 30 to 40 miles per hour, is now

Top row. Everything in the line of navigating equipment was exhibited by Kelvin and Wilfrid O. White Company. Ovington's yacht china. Bottom row. A power windlass exhibited by the American Engineering Company. Gyro compasses, searchlights, etc., shown by the Sperry Company.

within the reach of those not wanting to make a heavy investment. Several were exhibited that cost less than $2,000. In design, construction and finish all of the boats came up to a high standard. The Dodge Watercar, powered with a Dodge motor, promises to become popular. The Hacker Dolphin 26-foot runabout was another excellent job as was the Baby Dolphin, 22 feet in length. With a 100-h.p. Scripps a speed of 35 miles can be maintained, while with a 150-h.p. Scripps speeds up to 40 miles are obtained. For higher speeds and power the 30-foot Belle Isle Bear Cat, with a 225-h.p. Hall-Scott, attracted the attention of those to whom 40 miles per hour appeals. The Fay and Bowen new 30-foot runabout and the Junior Runabout, 24 feet long, powered with Fay and Bowen engines, were attractive because of the excellence of design and finish, and with moderate power show speeds of from 25 to 30 miles per hour.

Sea Sleds were exhibited in a variety of sizes. For rough waterwork these boats are hard to improve upon. In the larger size an enclosed forward cockpit adds to the comfort and protection which are so desirable in high speed boats under any but the most favorable conditions. The makers of the 26-foot Chris Craft runabout also realize the value of a protection at high speeds and their boat had a special removable and folding top over the forward cockpit.

For extremely high speeds the famous Baby Gar flier, 33 feet long, was probably the highest speed runabout at the Show. She was well designed and a beautiful piece of work, and with a Gar Wood marine engine she attains a speed of over 60 miles per hour. The *Teaser*, with a Wright Typhoon motor, was a special racing job to appeal to the man who follows the racing circuit.

The cruisers were not behind the runabouts in their attractiveness and interest. All of this type were extremely practical and able. The price range also was such as to meet any pocketbook. The Richardson 23-foot cruiser at $1,750 was an able little packet with plenty of room for four on an extended cruise. Likewise the Elco 26-footer, at $2,450 offered a lot for a moderate price. The Elco 62-footer, the largest boat at the Show, was the center of attraction. A twin-screw cruiser, she showed the latest development in a yacht of this type. Her staterooms were roomy and comfortable and her deckhouse arrangement, with a Malone-Lemon special marine radio set in the pilot house, was most practical. The other large cruiser was built by a newcomer in the field, the American Car and Foundry Company. This boat was 45 feet in length and offered a very attractive layout both in the after cabin and in the large deckhouse amidships. The Matthews 38-footer was a most practical craft, with especial consideration given to the galley, which was a workable one with plenty of elbowroom, and locker and storage space. Likewise the Lawley cruiser, of the same size but with a different layout, was most attractive and one of the most popular boats at the Show. For the man who had to count the cost the Kobcos 32-foot stock cruiser was a lot for the money. Built on the model of a Seabright skiff she had a fine cabin, sleeping four, a large cockpit, protected at the forward end, a small forward cockpit and a choice of any size Continental Van Blerck motors. The

(*Continued on page 105*)

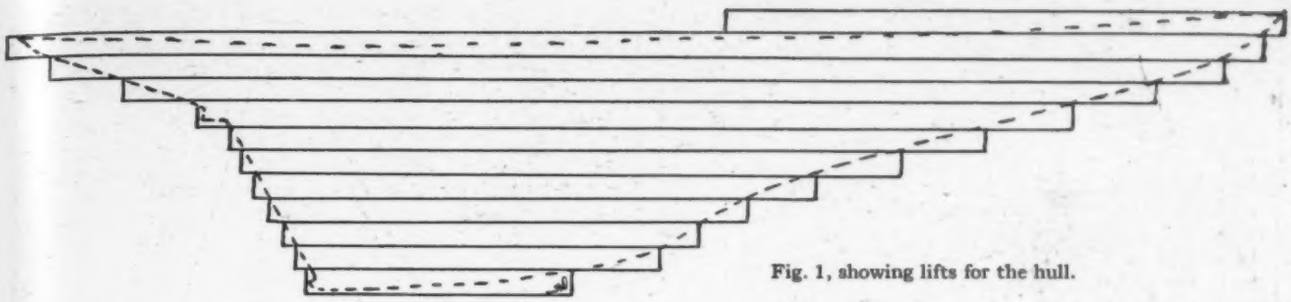


Fig. 1, showing lifts for the hull.

A New R Class Boat for the Model Yacht Racing Association

By THOMAS DARLING

AT the last meeting of the Model Yacht Racing Association of America, it was decided to adopt a Universal Rule Class model, to be known as Class R, on a scale of one-and-a-half inches to the foot. The following plans are of a boat that I have worked up to fit this class.

The design for this boat is the outcome of long observation, experimenting with several types of hulls and sail plans of models, and of a study of the lines and rig of some of our most successful full size racing craft. All restrictions of the Universal Rule have been observed in this model, so that it will fit in the new R Class of the Association.

This model should prove able, seaworthy and fast. She has plenty of bearing forward to prevent boring when running, an important consideration in a miniature as there is no live weight or ballast which can be shifted forward or aft as desired to preserve the trim of the vessel. The ample beam will prevent her being "knocked down" by heavy puffs of wind, and the ballast specified in the plans should insure ability to stand up to her work when it is blowing hard. These facts lead me to believe that she will "roll down" with dignity, and keep a true, even course when under pressure. This is very important in a model, as sudden wind shocks will cause a boat to screw up into the wind's eye, while a draft of air coming at a slightly different angle, due to an obstruction, brings the craft in irons, or about on the other tack.

A glance at the lines plan will show you that the boat has good sailing length. Length is a vital factor for speed. We also find the long forward, or leading edge, present in the underwater plane. Both the jib and mainsail have long leading edges, which is to be desired.

The overhangs are moderate, and the ballast is so distributed fore and aft as to minimize pitching. She should pitch slowly in rough water, and be able to keep her sails asleep when in a seaway. Her lines indicate that her wave action should be good.

Now for some data relative to building this craft. It is recommended that the lift method be employed in con-

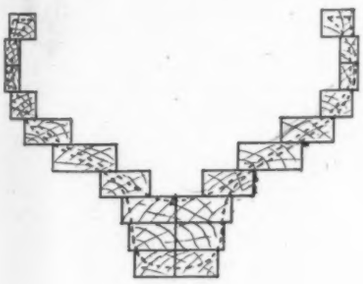


Fig. 2.

Fig. 3.

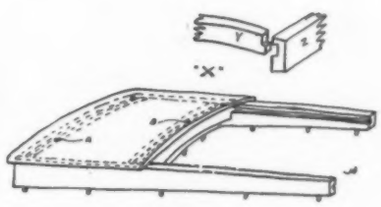


Fig. 4.

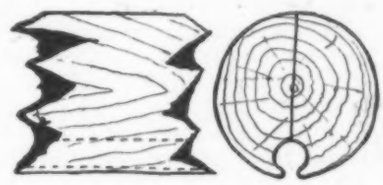


Fig. 5.

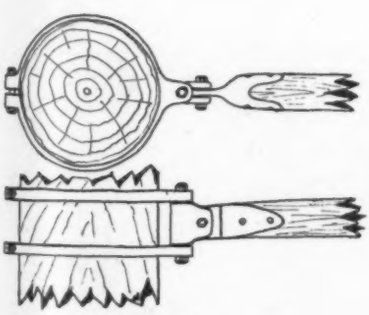


Fig. 7.

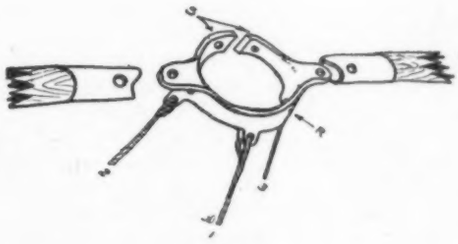


Fig. 6.

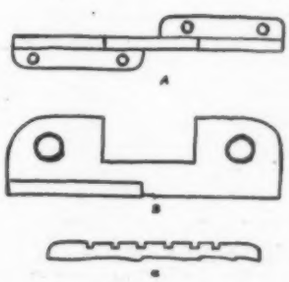
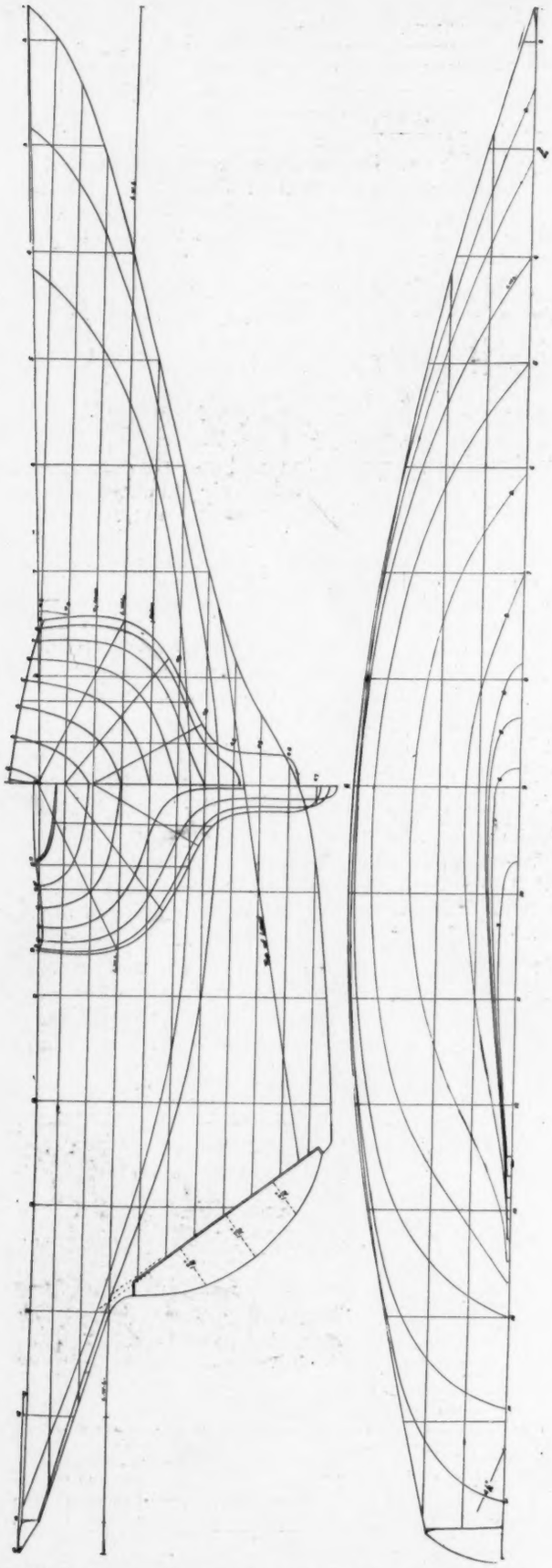
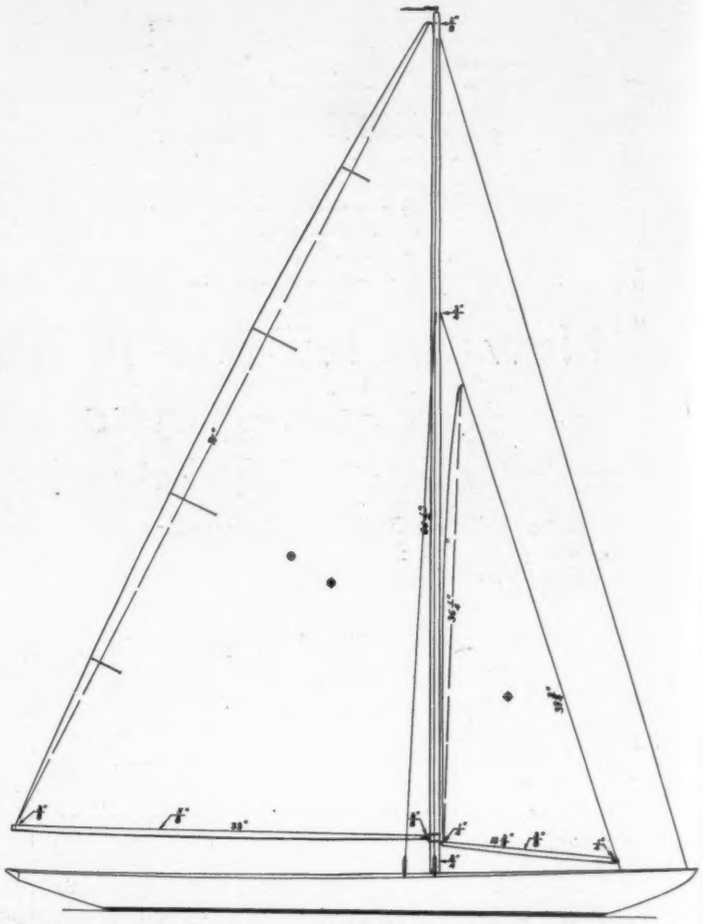


Fig. 8.

Fig. 9.



The lines of a model racing boat to rate in Class R on a scale of 1½ inches to the foot. Length o. a., 55″, w. l. 37.5″, beam w. l. 11.62″, draft 7.75″, rating 30.78.



Sail plan of Class R model yacht, Model Yacht Racing Association of America.

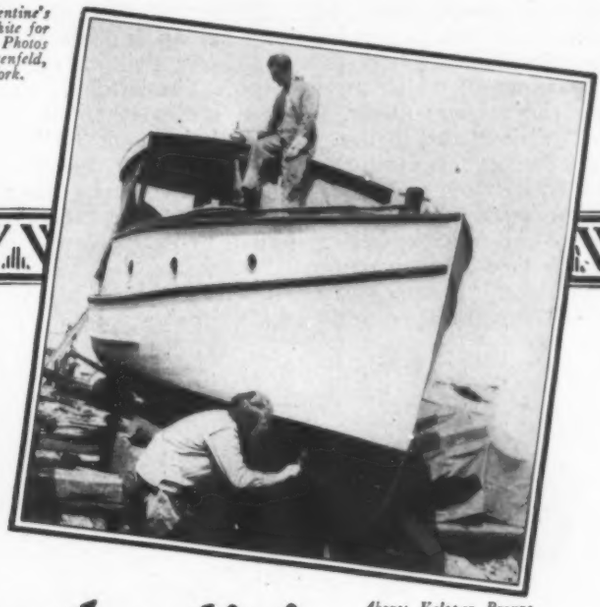
structing the hull. Reference to Figure 1 will give an idea of the appearance of the lifts when laid up. They are 1 inch in thickness, and should be cut from thoroughly seasoned white pine stock. The shapes for each lift can be obtained from the waterlines in the plans. Cut each half of the lift separately and join them in the center. This will give you a center-line, when assembled, which cannot be erased. The termination of each lift fore and aft will give you the outline of the keel, rudder post, etc. Mark the location of the stations while the lifts are in the square state, before saw cutting. Locate the forward and after ends of the lead before starting to shape the keel.

Figure 2 shows how each lift appears after it has been sawed, if seen in section. The width of each lift is determined by plotting at the several stations, as shown. This sketch represents station 9. Be cautious and do not hollow too low down as some solid stock must be left for deadwood. The lead keel will be bolted to this deadwood. Figure 2 shows the relative thickness of the skin at deadwood, bilges, and sheer. The minimum thickness is $\frac{1}{8}''$.

Simply work the corners off each lift and the outside shape of the hull will be formed. After the inside corners of each lift are removed the hull should weigh about three and one-quarter pounds. When the deck beams and deck are fitted it should weigh about four pounds. Work the deck down to $\frac{1}{8}''$ in thickness. The deck beams are to be fitted at the point where headstay passes through deck, at mast, between mast and rudder head, and at rudder head. Make them $\frac{1}{4}''$ thick, and 1″ wide. Camber $\frac{3}{8}''$ in 12″.

The keel bolts are located at stations 8, 9, 10, 11, 12. A handle may be provided for carrying the boat by secur-

Left: Valentine's Yacht White for the hull. Photos by M. Rosenfeld, New York.



Above: Valspar Bronze Bottom paint for bottoms.

Spring is in the Air!

NOW is the time to start thinking about your Annual Spring Clean-up. A little careful planning before you "commence operations," will save a lot of time later on and will give you a season free from worries. Be sure to use the proper paint and varnish!

During two decades, Valspar has given valiant service on yachts, speedboats and all kinds of watercraft. Today, Valspar is famous the world over as *the varnish that won't turn white.*

And Valspar comes in many forms, each one of great value to yachtsmen. *Clear Valspar* is the absolutely waterproof varnish. It is proof against weather, water and sea service. Amazingly durable and elastic, Valspar resists severe wear and hard usage. It is easy to apply,—dries dust free in two hours, hard overnight.

Clear Valspar for gunwhales and washboards. Valspar Boot Topping for waterline.

Valspar Bronze Bottom Paint is prized by boat owners as a dependable anti-fouling mixture that will keep the bottom of the average boat free from barnacles all season.

Valspar Yacht White and Yacht Black are the highest grade paints for your boat. They will keep their good looks all summer long, in spite of water and weather.

Valspar-Enamels. If you want beautiful, glossy, Enamel colors use Valspar-Enamels. Made of Valspar, they are therefore absolutely waterproof, unusually durable. Other Valentine products you'll need are: Valspar Varnish-Stains, Valspar Aluminum Paint, Valspar Gold Paint, Valspar Boot Topping, and Valspar Brass Polish Preservative.

All are highest quality. All have Valspar's waterproofness and long wearing qualities.

Send coupon for generous samples.

Clear Valspar for spars. Photo by J. Armstrong Roberts.

Valspar is waterproof and weatherproof.

Largest Manufacturers of High-Grade Varnishes in the World

This coupon is worth 20c to $1.60

VALENTINE'S VALSPAR

The Varnish That Won't Turn White

VALENTINE & COMPANY Yach. 3-26
460 Fourth Ave., New York

I enclose dealer's name and stamps—20c for each 40c sample can checked at right. (Only one sample of each product supplied at this special price. Write plainly.)

Valspar Instruction Book with Color Charts, 15c extra.

Dealer's Name.....

Address.....

Your Name.....

Address..... City.....

Clear Valspar	☐
Valspar Bronze Bottom Paint	☐
Aluminum Paint	☐
Gold Paint	☐
Yacht White	☐
Yacht Black	☐
Valspar-Enamel Choose 1 Color	☐
Valspar-Stain Choose 1 Color	☐
Valspar Book	☐

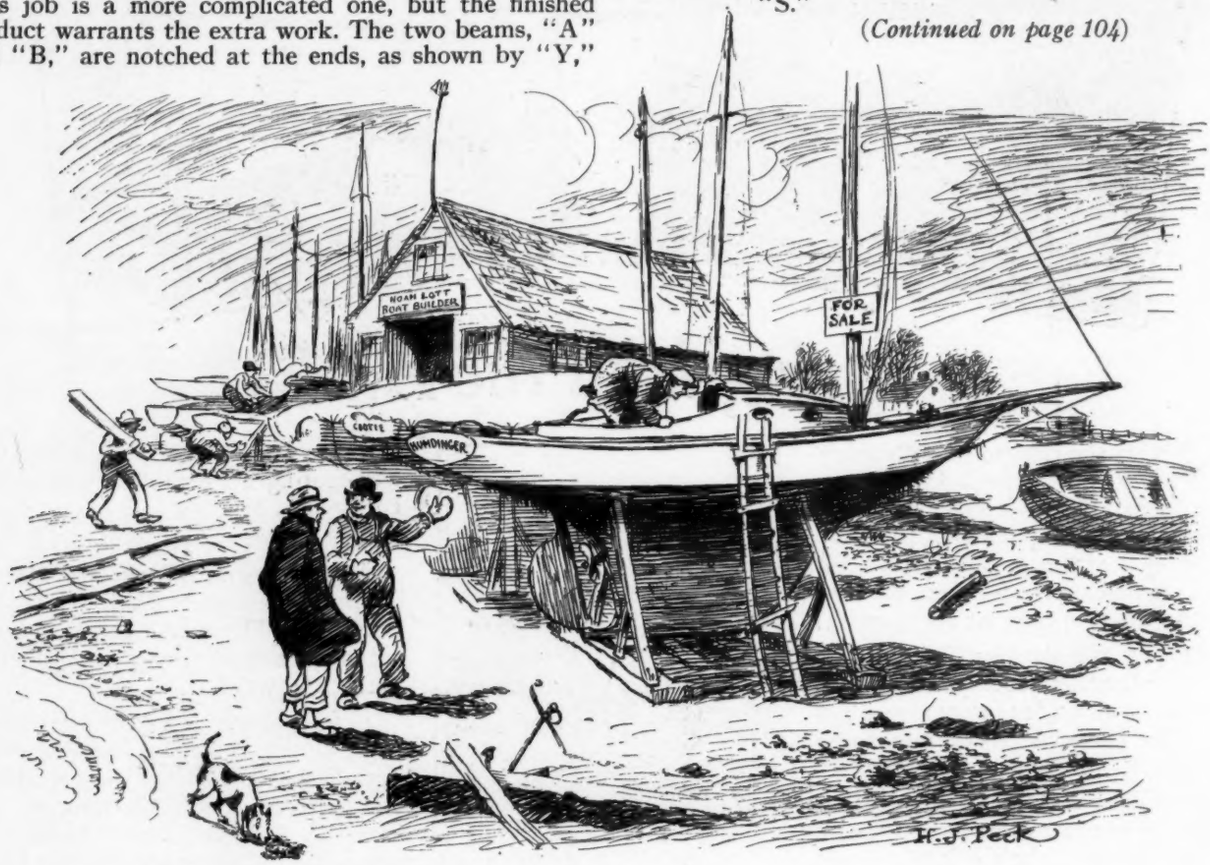
ing a metals trap under the boltheads, and bending it enough to permit a handhold.

It is desirable to have a hatch for bailing, if necessary, and to ventilate the hull. Figure 3 shows a simple type, the coamings of which are rabbeted. The hatch cover, fitting the rabbet snugly, forms a water-tight job. A hook "A" is placed in the cover, and the hook "B" in the deadwood. An elastic band, "D", with a twist, is stretched between and secures the hatch cover in place. The hatch may be round, oval or oblong, as desired. Figure 4 shows a real sliding hatch, or companionway. This job is a more complicated one, but the finished product warrants the extra work. The two beams, "A" and "B," are notched at the ends, as shown by "Y," and slide in the groove worked in the side "Z," sketch "X." Either one of these hatches should be made large enough to admit the hand easily. They can be securely fastened to the deck by means of dowels made from toothpicks.

The mast, boom and club can be joined as shown in Figure 5, having a groove to allow slides on sails to move freely. These slides can be made of small beads.

Figure 6 shows a mastband for headstay, shrouds and spreaders. A rivet may be driven through the mast as shown at "R," and the ends fastened with screws at "S."

(*Continued on page 104*)



The Perfect Packet

FROM Barnegat to Casco Bay
We've searched the boat yards through.
Full many a craft was on display
But never a one would do.

At City Island, New Rochelle,
And Mystic on the Sound
Were many yachts, and some quite swell;
But not a one we found,

But was too long, or short, or wide
Or oversparred, bedad;
Or hadn't room enough inside,
Or else too much she had.

At Newport, "Grinich," on the Cape
Were boats and yachts galore,
Oh! Many's the one we liked her shape
Hauled out upon the shore.

But always, always, did she lack
Some traits in vain we sought.
We searched and searched the beaten track
'Til we were nigh distraught.

Through Plymouth, Swampscott, Marblehead,
And Ipswich-by-the-Sea, —
And then, by gosh, when hope had fled
The perfect yacht found we!

She'd everything of heart's desire,
Right water-line and beam,
A kicker, — Shipmate for a fire,
And not an open seam.

Upon each other's necks we fell
For joy. The skies looked bright.
"What price for yonder cockle-shell?"
Alas! 'Twas out of sight!

Sadly, oh sadly trailed we home,
Joyless and yachtless we;
No more the boat yards for to roam,
What's going to be, must be.

But — if some reader of this tale
Knows where, for just a song,
There is a paragon for sale,
Oh — send the dope along!

H. J. PECK.

Owner's Stateroom, Yacht ARA. Appointments by New York Galleries, Inc.

The pleasure of cruising is greatly increased when your yacht's cabin and deck appointments provide the same convenience and comfort to which you are accustomed ashore.

¶ It is entirely practicable to enjoy this luxury aboard your cruiser. The essence of the problem, of course, is in acquiring just the right things for your particular boat — the furniture, hangings, lighting fixtures and decorative essentials which will harmonize.

¶ When properly designed and arranged before an appropriate background, these details often create an effect of spaciousness which even the limited dimensions of a yacht's cabin cannot dispel.

¶ To get the most out of your ship's accommodations, you have only to command the services of this organization of decorators and cabinetmakers. When desired, designs are prepared to order and finished in our shops. Yachtsmen are always welcome at the Galleries, where a consultation regarding the decorative possibilities of your craft will entail no obligation.

New York Galleries

INCORPORATED

Madison Avenue, 48th and 49th Streets

© 1926, N. Y. G.

Of Interest to the Skipper

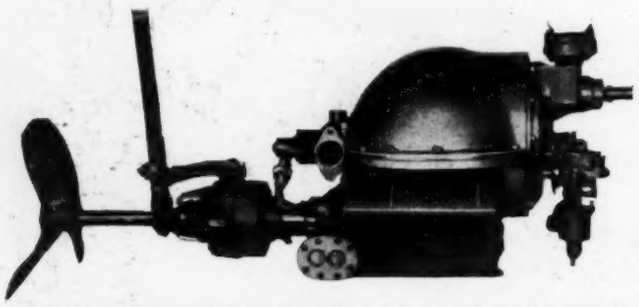
The Mystery Motor

By Samuel Wetherill

VISITORS at the Motor Boat Show who strolled to the rear of the mezzanine floor came upon an odd-looking piece of apparatus whose unexplained mysteries resulted in little else than exciting their curiosity. For most of the time there was no attendant at the exhibit, and the circular appropriated from a small table told little beyond the fact that the peculiar looking object was the Harper Marine Motor, a gasoline turbine-type power plant which developed 20 h.p. at 3,500 r.p.m., weighed but 125 pounds, etc. No description or drawings whatever of the "innards," or results of actual tests.

Since the Show I have visited the laboratory of the American Gas Turbine Corporation, which is developing the Harper Motor. Mr. Harper, the inventor, who holds numerous patents on the well-known Gnome Rotary Motor, spent a full hour showing me the "innards" and showing me how they worked, and then, turning on the "juice," gave a fine demonstration of the motor in actual operation.

For reasons best known to Mr. Harper and his associates the theory and construction of the new motor will not be made public for three or four months longer.



The Gasoline Turbine Motor is simplicity itself — from the outside.

However, Mr. Harper is willing that certain features be made known at this time, so at least I can satisfy the curious to some extent — and perhaps excite still more curiosity.

The Model D Harper Motor, shown at the Show, is both water and oil cooled. It has neither crankshaft nor connecting rods; no flywheel, camshaft, poppet valves or oil pump; nor any reciprocating parts of any kind; nor any blades, as the word "turbine" might indicate. The chambers and reaction members are strictly rotating elements around different centers, perfect balance being secured in all positions and at all speeds, resulting in a smooth, quiet, rotary movement with practically no vibration at either high or low speed. A reduction gear of 2 to 1 or 2½ to 1 is built integral with Model D, and reductions up to 5 to 1 are feasible in larger models.

The whole operating mechanism revolves in a bath of oil, thus eliminating oil pumps, pipes, etc. All heated parts of the motor are water jacketed, circulation being maintained by a positive feed pump located near the base of the engine.

A new and high pressure heat regenerative principle, by means of which the gas is burned at controllable high compression of from 80 to 200 lbs. per square inch, is said to result in remarkable economy of fuel. Actual and continuous flame propagation brings about remarkably effective ignition of the charge of gas. Combustion is rapid and complete.

The power developed in relation to size, weight, and cubic capacity is remarkable. Mr. Harper stated that a model of approximately the same cubic capacity as a Ford motor weighed less than the Ford assembly, and developed 150 h.p.

The test motor was loose-bolted to an ordinary work bench. It started on the second throw of the crank. At low speed it hummed like a hive of bees, purred a bit louder as the throttle was opened, and finally droned like a distant sawmill as the tachometer showed 4,000 r.p.m. At no speed was there more than the merest trace of vibration — the loose-bolted motor never moved on the bench. It ran as evenly at 300 r.p.m. as at 4,000 r.p.m.

Presently a mechanic stepped up and removed a plug from the 1½" exhaust line, close to the motor. On wide open throttle there was no smoke, smell or flame, and not enough noise to seriously hamper conversation. Mr. Harper held his hand some three feet from the open exhaust line without experiencing discomfort.

Gasoline was the fuel used on the test, but Mr. Harper states that so perfect is the combustion of the charge that the motor functions perfectly on any grade of fuel oil without residue, and will use half the fuel required to operate the average modern internal combustion engine of the same power.

Is the Harper Motor about to revolutionize the marine motor industry? Frankly, I don't know. But I do know this: It is an extremely ingenious mechanism, utilizing well-known principles, and is free from freakish features. I have seen it run — and it looks good.

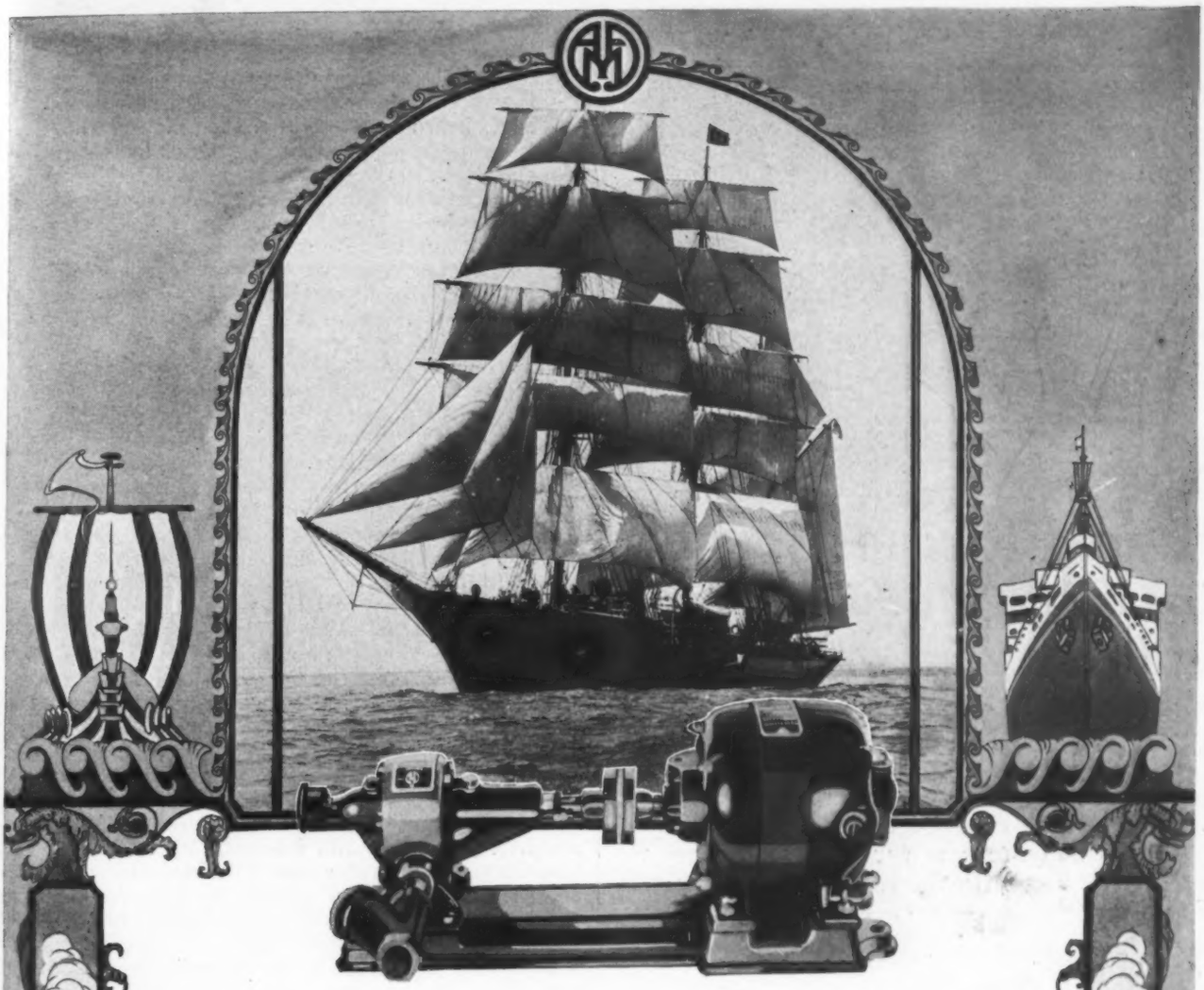
Book Review

Voyages and Discoveries in the South Seas

(Marine Research Society — 1924)

SELDOM has it been our lot to review a more entertaining book than this narrative of Captain Edmund Fanning, of Stonington, Conn., of voyages made between the years 1792–1832, mostly out of New York to the South Seas, to the Far East and home again around the world. He sailed in an age when most of the southern ocean and much of the Pacific was unexplored, and he himself and the ships he sent out as part owner did much to add to the knowledge of those waters. It was he who discovered and named Fanning's Island, 1200 miles south of Hawaii. He was probably the first white man to stop at Nukahiva in the Marquisas, and he made the first voyage from the port of New York around the world with an American ship and a crew composed entirely of Americans. All this was made in the little brig *Betsey*, less than 100 tons burden. While the *Betsey* started this long voyage as a brig, a stop was made at the Cape Verde Islands and here the ship's company converted her to a ship by adding a mizzen mast so that "while lying off and at the seal islands to procure our cargo of fur seal skins, the cabin boy alone could tend and work a mizzen topsail who would be altogether unable to do anything with the heavy boom of a brig's fore and aft mainsail." All this was accomplished without one dollar's expense to the owners. Truly they were seamen in those days.

The disastrous voyage of the *Union*, when all of the crew were killed by Fiji islanders, and the cargo stolen, is another narrative that ranks with the most thrilling of the earlier navigators. It is a book that will make a big appeal to the man who loves the sea and adventure.



The Aloha—and AMF Pumps

COMMODORE Arthur Curtis James' beautiful yacht "Aloha", (illustrated above) with her glorious spread of canvas, reminiscent of earlier days—is nevertheless the most modern and luxurious of modern pleasure-craft. She is now being reconditioned and converted from steam to Diesel Drive at the yards of the Staten Island Ship Building Co., under the direction of Tams & King, naval architects and is being AMF Pump equipped from stem to stern. Complete AMF Pump equipment includes the following system:

Fresh Water, Fuel Oil, Lubricating Oil, Hot Water, Drinking Water, Salt Water, Ice Machine, Evaporator, Boiler Feed and Kerosene Pumps.

All Bronze, Bronze-fitted or Cast Iron

A Type for every Ship Afloat

AMF
Motor Driven Capstan

American Machine & Foundry Co.
5520 Second Avenue
Brooklyn, N.Y.

AMF
Hand Pump

Looking forward in the luxuriously appointed deck-house, finished in teak outside and in, on the 104-ft. SEQUOIA II, Mathis-built for Mr. Richard M. Cadwalader, Jr., Philadelphia.

The Florida Season
has been a *Mathis* Triumph

Among all the boats in Florida waters this season, none have received so much interest and attention as the Mathis-built fleet of notable new houseboats.

Broad beams, making for living comfort, have been concealed by yachty lines and the new type Mathis yacht stern (shown in the illustration of the Sequoia II below).

Shallow draft combined with mechanical perfection have enabled most of these boats to reach points on inland streams not possible to many boats of smaller size.

History has repeated itself. Once more Mathis has struck a new high keynote in general seaworthiness, luxurious comfort, yachty lines and efficient utility.

Mathis Yacht Building Co.

Houseboats and Cruisers, from 40 to 120 feet

104-ft. Houseboat "SEQUOIA II," Mathis-built for Mr. Richard M. Cadwalader, Jr., Philadelphia. Excels in yachty lines, seagoing qualities and speed of 15 miles.

Front & Erie Sts.
Camden,
New Jersey

Through Fundy's Fog

(*Continued from page 54*)

amid the battleships and the small boats, seemed anxious to be away, off to new adventures of the air lanes.

We had heard the story of the fog maker, who, if you will believe the salts of Bar Harbor, lives on Grand Manan Island, to the east by 30 miles. There is, we were told, a gigantic fog manufacturing plant on Grand Manan and the fog maker, a hoary old hermit, has one religion, the power of nature. He is a tower of strength, fighting with his clouds of vapor all who seek to triumph over the elements. He has lived there since time began, they said, and his fog has ever been an inpenetrable screen through which mariners never venture at anything greater than a crawl. The speed of an airplane would naturally rub the old fellow the wrong way. He would thicken up his soup for the *Caroline*, should she shove her snippy nose against it, they told us.

But we were impatient. At least we could try.

So we went aboard the *Caroline*, filled her tanks with fuel, warmed up the motor and taxied beyond the destroyers and battleships to a take-off position. The leap into the air was exciting enough. A wind whipped short waves against our bow, splashed our faces with salt water, yet filled us with joy as it lifted us clear of the water in record time. We circled over the bar, gaining altitude and getting the bumps that rolled down off Mt. Desert. At 2,000 feet the *Caroline* stood almost still, but our speed was terrific when we turned down wind and northeast along the coast.

The mist gathered as we shot out of the harbor and we were in the fog almost before we realized its intensity. Suddenly everything below was blotted out. The wing tips were vague, the tail surfaces indistinct. My eyes sought the compass and I headed out to sea. At 3,000 feet we were still in the haze. I decided to try it close to the water. Going down strange thoughts raced through my brain. What, I asked myself, would happen if the motor should fail? Would an island loom up suddenly beneath us? Would a mountain come racing out of the fog? The spars of a tall ship might suddenly snag our wings, anything might happen —

I saw the sea come up beneath our dipped bow. I opened the motor and for five minutes cruised fearfully along. The sea swept by ten feet beneath our keel. Our eyes couldn't see 50 feet ahead. Suddenly something black passed beneath. It was a tiny (and low, thank God) island. It came to me that the sailors on the dock at Bar Harbor were right. I was unhappy to be out in that fog.

I pressed more throttle onto the motor, pulled back the stick, and, reaching 500 feet, swung around. The compass took us back to Bar Harbor, though neither of us know how. We landed on the ridge of a rushing wave with a great sense of comfort.

Ashore the sailors nodded their heads and smiled. But none of them said "I told you so."

Those of you who would sail the North Atlantic coast, do not scoff at the story of the fog machine on Grand Manan. File the name away in your mind and beware of the old hermit who lives on that island. Mariners have tried for years to beat his little fog game. They have failed. You're too young to succeed. Beware, I say, of Grand Manan.

August 9th — At noon a light west wind came blowing across Bar Harbor and in less than half an hour we were cruising northeastward. Machias Bay was only faintly clouded by mist and we saw Grand Manan slip beneath with great relief. Soon we were over Canada and the jaunty Stars and Stripes, nailed to an outer strut, stood flat against the wind, shouting the *Caroline's* birthplace to all who gazed aloft.

We were over a wild country now. But few airplanes

"Baby Dolphin" in Foreground; Dolphin Behind

"Baby Dolphin"—*A Show Hit*

AT THREE national boat shows—New York, Detroit, Baltimore—the "Baby Dolphin", newest product of Hackercraft, scored a decided hit.

Boat lovers and yachtsmen frankly expressed surprise over its refinements, seaworthiness and, particularly, its price. The "Dolphin" too, proved a popular exhibit, with its greater power and speed.

Both Dolphins are built of Honduras mahogany with ***double*** planked bottoms, full length engine timbers, copper and brass fastenings—salt water equipped.

1926 Prices

BABY DOLPHIN

21' 10" x 5' 10", Double Cockpit, Aft Control, 7 Pass., Speeds 23 to 37 mi., Motor Equipment as follows:

Continental-Van Blerck No. 250	$2475
Scripps F-4 Marine	2595
Scripps F-6 Marine	2995
Scripps F-6 Junior Gold Cup	3095

DOLPHIN

25' 10" x 6' 6", Double Cockpit, Forward Control, 10 Pass., Speeds 30 to 38 Mi., Motor Equipment as Follows:

Scripps F-6 Marine	$3900
Scripps F-6 Junior Gold Cup	3975
Scripps G-6 Marine	4625

You will want your boat without fail when spring arrives, so order it early to insure delivery in ample time.

New Agency Connections

Announced for the Benefit of Boat Buyers in neighboring localities.

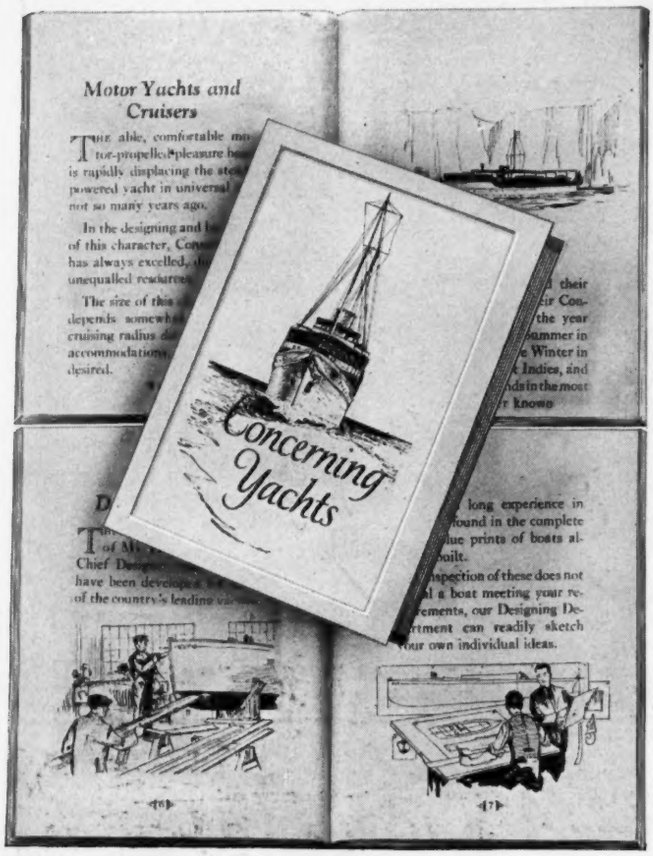
NEW ENGLAND STATES—
Walter E. Moreton Corp.
1045 Commonwealth Avenue, Boston

NEW YORK AND ENVIRONS—
Belle Isle Boat & Eng. Co.
Suite 1210, 393 Seventh Avenue, New York, N. Y.

MARYLAND—
Fred'k Read Strow
308 E. Lombard St., Baltimore, Md.

MIAMI, FLA.—
Clement Amory
118 North Bay Shore Drive

HACKER and FERMANN
INCORPORATED
DISTRIBUTORS
Sixty-three Hundred E. Jefferson
DETROIT



Send for this Book

IN THIS meaty little volume, pocket size and handy, is a wealth of interesting information about Consolidated-built-boats.

It outlines a superior design of pleasure craft for every purpose, from the Famous Playboat to the ocean going Motor Yacht, and emphasizes again the thought and care given to the designing and building of each Consolidated boat.

It also tells of the Speedway Engine—the ultimate power plant—which has contributed in a large measure to the worldwide reputation of Consolidated, because it most successfully meets the exacting conditions of marine service.

Send for a copy of this booklet today "Concerning Yachts", if only to learn of our Designing, Engineering, Overhauling, Repairing, Brokerage and Storage Departments—which may prove of much value and convenience to you.

CONSOLIDATED SHIPBUILDING CORP.
MORRIS HEIGHTS NEW YORK CITY

Speedway Engine Sales Department

A. G. GRIESE, Inc., 331 Madison Avenue, New York City

had ever flown this way before. Among them were the historic N C boats. As we passed seacoast villages we were conscious of the stir our motor created. People ran through the streets, pointing towards us, waving their arms, beckoning us to their harbors. But we flew on, bent on making a good port before the wind died.

As the *Caroline* swung inland, over a rock-studded neck of land and above the harbor of St. John, the west wind gasped its last breath. A gentle sea breeze sprang up and the fog drifted towards the city. Our ship had barely settled on the water before the docks and piers grew dim in the haze.

The harbor master's boat came out to meet us. Aboard were six pilots, men who nurse the sea tramps into the harbor of St. John. They took the *Caroline* into their care at once and soon had her berthed to their satisfaction, which, because of their experience with the lower end of the Bay of Fundy, was not easily accomplished.

"We've put out 150 feet of line and a heavy anchor," said young Leahy, who possessed pilot's papers though he was only 25 years old. "We've a 40 foot tide here and you'll need the line. She'll be all right unless it blows out of the nor'east. If it comes nor'east, we'll change her berth. Come ashore, sir, and meet Mr. Chesley."

Baker and I, surprised at all of this attention, climbed up the tall pier. There we met a charming man, our host. His name was Chesley, and he is agent for marine and fisheries. He waved us into the pilot's house, bade us take off our flying clothes and warm ourselves beside the round-bellied stove. He explained that we had been expected, that the entire Department of Marine and Fisheries was at our service. If our flight had chilled us we would have no difficulty in securing a glass of rum, he said.

"We knew you were coming, but we hardly expected you today," said Chesley. "You only left Langley field yesterday —"

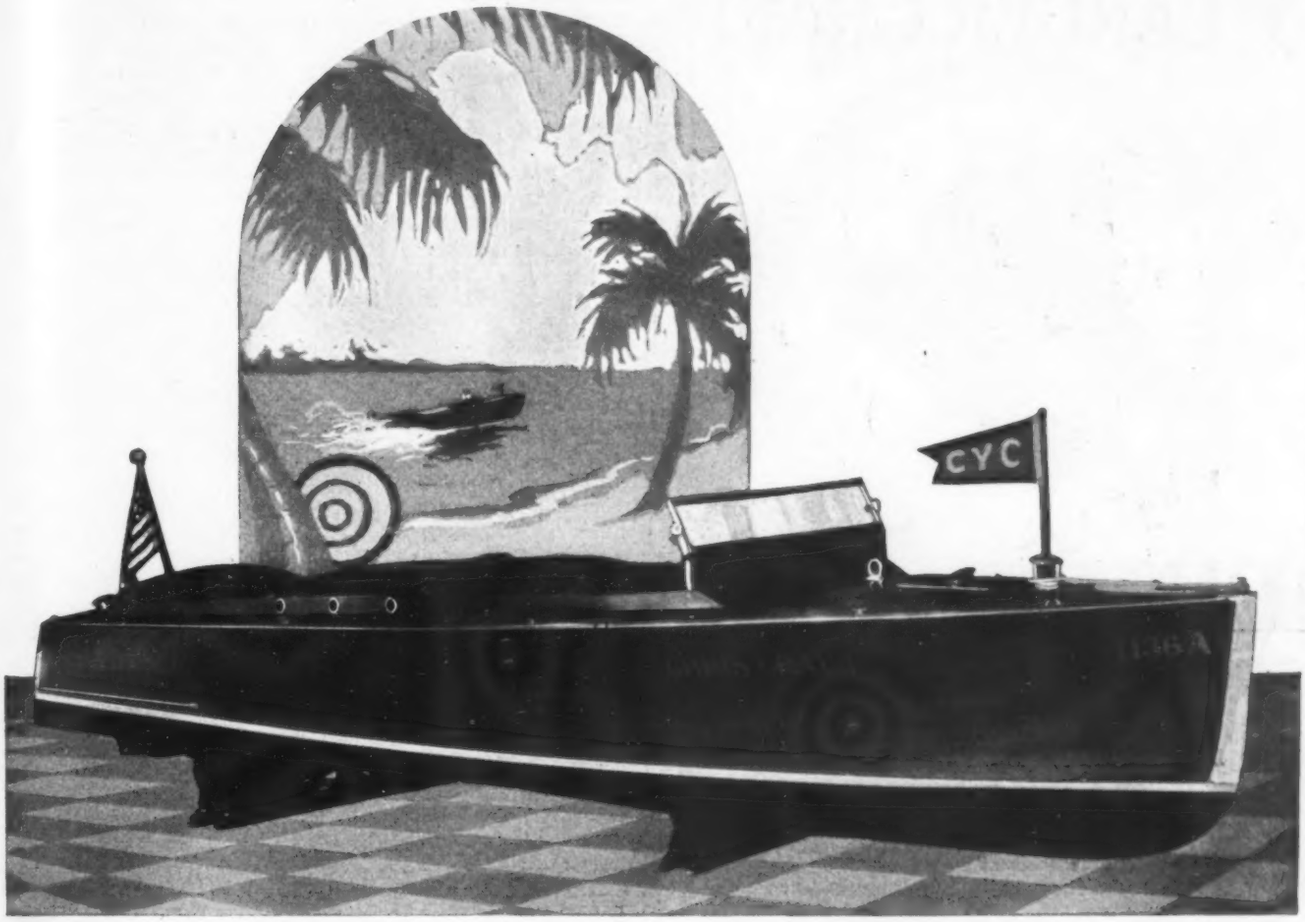
Then I knew what had happened. We had been mistaken for the air service pilots who were flying the *Boston II* to Pictou for Wade, whose ship had been washed out in the northland seas. Hence the hospitality. But Chesley waved away our explanations. We were visitors, aviators, men from another country and we were welcome.

Tonight Leahy interested us in champagne, rum, whiskey, and choice liqueurs from France. It will be thick tomorrow, he said. Unless the wind changes.

August 10th — Leahy was right. It has been thick all day. We cursed our luck and the Bay of Fundy. We stormed and marched about the docks and fumed in the pilot's house. Smith and his world flyers were getting on. They'd reach Pictou before we did. Damn the fog. The pilots, seasoned by many years of the mist, smiled softly and tried to quiet our worries. They urged against grousing about weather. It was so futile, they said. They quoted Mark Twain and advised us to stand by quietly, calmly. They told us stories of the Bay of Fundy, of ships that had gone down with all hands, of midwinter rescues, of strong deeds of the sea.

One, a veteran of two score years of sailing, got out a map and explained the Bay of Fundy. He showed the rise and fall of the tide along the coast, starting at St. John where the spring tide is 40 feet above the neap, and continuing up to the top of Cumberland basin, where the boar tide roars in a solid wall four feet high over the long beaches. He pointed out streams that have reversible rapids and indicated a waterfall that tumbled towards the ocean on the ebb and splashed inland on the flood tide. Nowhere else in all the world are there tides like those in Fundy.

"We have fog most of the fall here," he said. "You'll have a chance, a slim chance of getting through tomorrow. The weather may change and we may get a land breeze. If we see it coming we'll tell you and get you under way



When a New Record was Established by the Kermath Chris-Craft

The 26-foot Chris-Craft is all mahogany with rubbed finish. Bottom is screw-fastened and double-planked for strength, sides single-planked battened seam construction. Windshield heavily reinforced and full tilting. Lifting rings fore and aft. Power is the Kermath 150-H. P. six-cylinder valve-in-head marine motor. Speeds, 38 to 40 miles per hour. Salt water equipt throughout.

POSSIBLY the greatest endorsement ever accorded any runabout was received by Chris-Craft during the week of the National Motor Boat Show. Boats of all makes, all sizes, all prices were on display. Buyers were offered an unusual opportunity to make comparisons and the result of their choice is significant. Twenty-eight bona fide orders [with deposits] were placed for Chris-Craft, making this all mahogany boat the outstanding "buy" in the field of fine runabouts.

Chris Smith & Sons Boat Co.

ALGONAC, MICHIGAN

$3500 F.O.B. Algonac

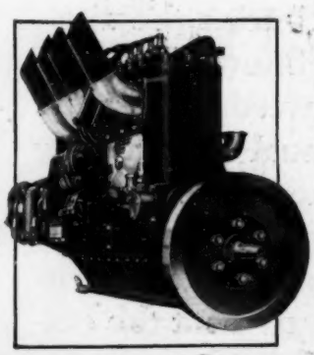
LARGEST BUILDERS OF FAST RUNABOUTS

for LARGER CRAFT

ERD S-4

with Reduction Gear

THE ERD REDUCTION GEAR, ERD manufactured under Campbell patents, makes the great ERD S-4 available for use in craft up to 60 ft. in length. The tremendous power of the ERD S-4 turns the larger propellers with amazing ease and quiet, and at an appreciable saving in both first cost and operating costs. The ERD S-4 is trim and neat, a welcome change for the owners of larger craft who have been accustomed to bulky, noisy engines which spilled oil freely. And the ERD is vibrationless—no matter what the speed.



Now — the ERD S-151, powerful beyond any demand which may be made upon it, without vibration, and able to stand the gaff of a grueling competition without appreciable wear on the parts. A great achievement which is destined to do great things in the 151 cu. in. racing field.

Write for data and other information direct to factory.

ERD marine motors

For full particulars - write

ERD MOTORS CORPORATION

SAGINAW · W · S · MICH ·

as quick as possible. You'll have to take advantage of every chance you have."

Another veteran took his eyes off the murky, misty waters of the harbor and gave me some advice. Later I considered it astounding. Seafaring men comprehend so quickly, so thoroughly. They have a sixth sense that warns them of trouble. I've had cutters set out from battleships long before I had motioned for aid. I've had them pass lines to me when I needed help, but when I hadn't asked for it. Sailors will always lend a hand. Perhaps it is written in their brains that a seaman can never tell when he will need assistance. But to return to my friend's advice.

"Fly high, my boy," he said. "The coast line is tall and rugged. It is irregular and springs up out of nowhere. It is easy when you're on shipboard. You can crawl along then, but if I understand airplanes you have to fly fast or you do not fly. Stay above the shore line, my lad."

I asked about the 24 miles of land we would have to jump. Were there any lakes? They shook their heads. I suspect they had looked up my course the minute they heard my destination.

"The map shows one tiny lake," they said. I gazed at the map. The lake was large enough for a landing, but too small for a take-off and not in the center of the passage. It would be necessary to climb to 6,000 feet before going across that stretch of 24 miles of land. Motor failure, the dread of all aviators, would end in disaster, were it to come halfway across.

A flying boat must have water when coming to rest. The motor sits above and behind the ship's crew and a landing on land means a nasty crash. Hence the necessity of gaining altitude, from which to glide in safety should the motor fail. At 10,000 feet the *Caroline* could glide either to the Bay of Fundy or the Gulf of the St. Lawrence should her engine stop halfway across. We would not start inland at less than 6,000 feet, I vowed.

August 11th — This is no journal of a lovelorn girl. It is no heaping of innermost thoughts upon the pyre of a dead soul, no communion with one's secret self, no tale of a love wooed and lost. Perhaps it may have an audience and perhaps not. In other years it may help to recall the colors of the broad highway, the roar of the motor, the mysteries of the air lanes — it may breed a colossal liar — it may prod an old man to stories that will widen the eyes of youngsters, to accounts of strong deeds done among the clouds. But no matter the reason for these words. Let them run on —

I would be faithless to the memory of the dainty *Caroline*, and to all flight, if I did not record truthfully the history of today's conflict with nature. Other men of the air may smirk, although the veterans know the horrors of fog. Let them smirk. I knew genuine fear today and more than once I prayed to God to clear the way and keep the *Caroline's* motor throbbing. I'll put it all down — *coute qu'il coute.*

At noon today St. John was wet, cold and dark. The fog hung in great blankets on all sides. The ocean was calm. The shadows of late evening hung over the streets. Sailors shook their heads. It would be dangerous to venture out in the pilot's boat, they said. Better stay near the warmth of the potbellied stove.

But youth was indomitable.

We put our baggage aboard the *Caroline.* The tanks were full and extra cans of fuel were packed in the cockpit. We donned our flying clothes, pulled up the anchors and drifted out into the bay on the ebbing tide. I waved a farewell as we slipped out into the mist, though I believed that we might return.

Trouble set in at once. The motor, dampened by three days of fog, balked. For 30 minutes I applied the self-starter and my muscles. Suddenly it burst into a roar and I jumped into my seat. I was wringing wet. Beads of

Power — at no sacrifice of light weight!

Light Weight at no sacrifice of power!

SLIGHTLY more than 50 lbs.—that's all the Super Elto weighs! Just a "one-man carry," and a one-man job to slip on the stern of any boat.

But — full 4 horsepower (conservative S. A. E. Rating) — that's what the Super Elto delivers! Bountiful power for every outboard motor use. An abundance of power for speed and for sure boat control against stiff winds or heavy seas. *Power*—all the power you want, with compact portability that makes this power usable on any type of boat.

Marine Design! Instant Starting! Exclusive Features of Control!

In every detail the Super Elto is built to stand up under hardest marine use. Nothing of ruggedness is sacrificed for either power or lightness. Starts on the quarter-turn flip of the flywheel. Starts every time — the *only* outboard motor that starts on a quarter turn! Absolutely waterproof ignition.

Full *boat* and *motor* control from any part of boat. Steer, slow down, speed up or stop from any seat. An invaluable feature on any boat and indispensable on short, squatty dinghies.

Other exclusive features — Trouble-free Propello-Pump (Patented)—Dual-jet carburetion—Silent, odorless, under-water exhaust — Full floating drive shaft — Quick push-button reverse.

The *Super* ELTO—every feature an outstanding value—the peak achievement of its designer and builder, Ole Evinrude. The *Super* ELTO—the same weight—same price—the same beautiful lines.

ELTO OUTBOARD MOTOR COMPANY
OLE EVINRUDE, President
Dept. 2 Manufacturers Home Building Milwaukee, Wisconsin

A3091-M-P

"Starts on a quarter turn"

Super Elto

© E. O. M. Co., 1926

HOMELITE

Complete and ready to run

$195 f. o. b. factory

The Only Practical Light Plant For Your Boat

HOMELITE, the only really *compact* electric light and power plant, may be installed on any type of marine craft without the sacrifice of valuable space. This wonderful little 600-watt plant turns out plenty of current to meet all your requirements,—sailing, riding and cabin lights, electrical appliances and machinery up to ½ hp.

HOMELITE can be absolutely depended upon under any and all conditions. It may be used without batteries or in connection with the boat's batteries and it operates on gasoline, kerosene or furnace oil.

Dependability, compactness and *small expense,*— these are the basic reasons why hundreds of prominent boat owners are installing **HOMELITE.**

Really Portable

SPECIFICATIONS

Length 21", width 14", height 21".

Weight: 110 pounds. Ball bearing throughout.

Engine: Single cylinder, air-cooled.

Carburetor: Adjustable to various types of fuel. High tension Bosch Magneto or Bosch Battery Ignition. 1700 R.P.M.

Generator: Six pole, shunt-wound. Output, 600 watts minimum, direct current.

Control: Automatic electric governor.

Voltages: 12, 32 and 110 volt models.

Operates: With or without batteries. Will light 40 lights continuously, appliances such as toasters, grills, electric fans, irons, etc. or machinery up to ½ hp.

Write today for free literature
Address Dept. E 3

HOMELITE CORPORATION

Grand Central Terminal, New York

Marine Distributors

East Coast	*Great Lakes*	*Gulf Coast*
Smith-Meeker Eng. Co. New York, N. Y.	Hubbard H. Erickson Co. Chicago, Ill.	So. Water Supply Co. Tampa, Fla.
Walter H. Moreton Co. Boston, Mass.	Warren F. Meier Lakewood, Cleveland, O.	Harcol Industries Inc. New Orleans, La.

West Coast

Fellows & Stewart Wilmington, Cal.	Hoffar Marine Const. Co. Vancouver, B. C.	Seattle Marine Equipment Co. Seattle, Wash.

There is a HOMELITE Dealer near you—let us arrange a demonstration

perspiration stood on my cheeks. Harry handed me a bottle of rum and I took a long draught and opened the throttle.

The control had worked loose. I stopped the motor, dug out the tools and made the adjustment. There followed another ten minutes of cranking. Again the engine throbbed and I had another drink. It was time to get under way. The tide was running fast. We had drifted far.

A moment after I had opened the throttle for the take-off I knew the *Caroline* could not lift the extra load. Again I stopped the motor. Harry tossed the extra fuel containers overboard. Once more I cranked — the battery was exhausted — and again we were under way.

It was a thrilling take-off. The *Caroline* rose out of the water 15 yards from the pilot's house and 10 from the end of the pier. I pulled up and we cleared. On the dock I could see hundreds of people who had come to witness our departure. They waved their arms. Baker gave them answer; I was too busy. We skimmed the edge of the harbor, skirting docks, ships, spars, and, turning down wind, we swung out to sea.

For 20 minutes we flew on top of the water. Then the fog cleared and I opened the throttle wide. We climbed into the sunlight. I breathed easier and smiled at Harry. He enjoyed it all. For an hour we flew in the bright sun, cruising merrily along in still air, studying the shore line of the Bay of Fundy.

Suddenly I nudged Harry and pointed ahead. There it was again. Fog!! Viewed from above it was beautiful, but it struck terror in my heart. I'll never forget that vision.

It lay a mile off the bow and 500 feet below us. It was a vast flock of white, woolly sheep, advancing steadily. Hundreds, thousands, millions of round white fleecy backs marching forward, blotting out land and sea. Great white billows, so spotless, so brilliant in the sun, they were beautiful to see. But my heart sank.

We shook our heads and I cut the throttle and nosed the *Caroline* down. In another second the sun was gone. The world was gray. Harry's eyes were dull. There was nothing to see but mist — mist grasping at our wing tips, mist fingering the ailerons, clutching the rudder, clawing the elevator. The ocean, three feet below the keel, yet as indistinct as the moon behind a heavy cloud, swept past. I nursed the motor to the proper speed and we shot along, not knowing what moment the cliffs would come crashing into the delicate mahogany bow.

For 20 minutes I flew in that soup, my heart sinking every second, my eyes leaping from the compass to the mist, my hand on the throttle ready to slam it open should the cliffs come out of oblivion. Once the keel touched the water. It jumped my heart to my mouth. Again I rose too far to see the dim vague water and flew by instinct alone.

All this time, mind you, the Bay of Fundy was drawing to a close at its top. The roadway was becoming narrower every minute. Finally I could stand it no longer. My calculations told me that I must be near the end of the bay, that the shore must be close at hand. I decided to take a chance. At least I must get out of that fog.

I slammed the throttle wide open, pulled back the stick and climbed. For five minutes we ascended. Our eyes were unable to see beyond the cockpit. At times our faces were partially obscured. I begged *Caroline* to keep her wings level, her motor roaring. She did.

As suddenly as we discovered the fog half an hour before we left it. We swept out of it into the sunshine again and three miles ahead I saw the broad red shore, the head of Cumberland basin and the tip of the Bay of Fundy. As we climbed, anxious to achieve an altitude of 6,000 feet before starting across, I studied the shore. It was across those miles of red clay that the bore comes rushing in a solid wall. It was low tide and the wet clay

and in 1926, too,

Dolphin

Scripps Powered

HACKER BOAT COMPANY
BUILDERS OF
Hacker Craft
MT CLEMENS, MICH.

January 4th, 1926.

The Scripps Motor Co.
5817 Lincoln Ave.
Detroit, Mich.

Gentlemen:

We take pleasure in enclosing herewith our order # 458 covering our stock of motor requirements for 1926.

The thorough competitive tests which we have made, satisfy us that your engines will give us the best speed and performance in our boats. In addition the service on the motors has always been good.

We believe this is the largest bona fide order ever given for standard runabout engines as we know of no other builder whose production will equal our output of DOLPHINS, BABY DOLPHINS, DELUXE DOLPHINS and the new Junior Gold Cup models known as the TAMPA BABIES.

Wishing you a Happy and Prosperous New Year, we remain,

Yours truly,
Hacker Boat Company,
By S D McCready
Sect'y & Treas.

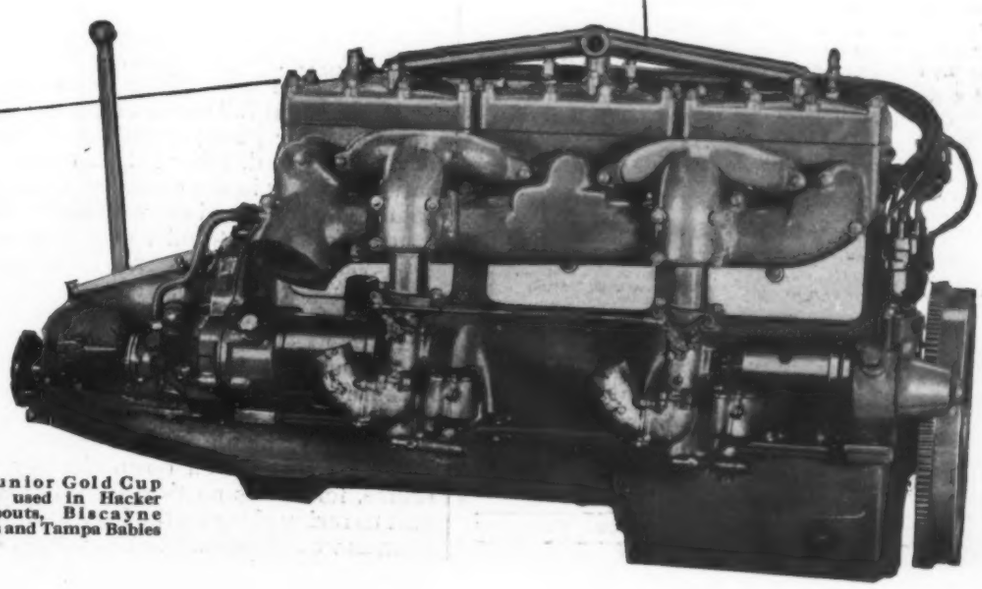
SDM/R

BEFORE placing their order for engines to power the 1926 Dolphin and Baby Dolphin Runabouts, the Hacker Boat Company conducted a series of competitive tests with many high grade marine engines to determine which make of engine would give the best service and speed in the 1926 models of the Dolphin Runabouts.

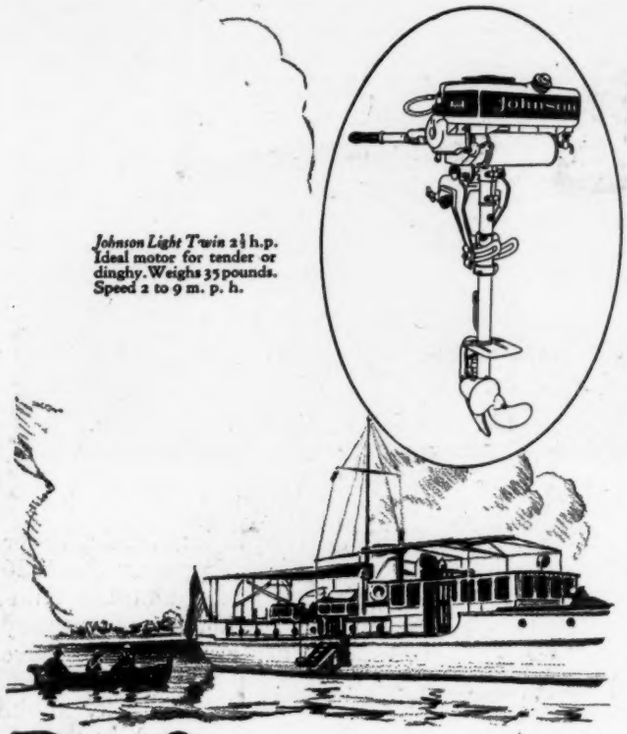
In these tests Scripps engines out-scored all others. And, so for another year Scripps F-4, F-6 and G-6 marine engines will be standard in the Dolphin Runabouts.

Sizes and models for almost every type of service from 10 *H.P. to* 150 *H.P.*

SCRIPPS MOTOR CO.
5833 Lincoln Avenue
Detroit Mich.



F-6 Junior Gold Cup Model used in Hacker Runabouts, Biscayne Babies and Tampa Babies



Johnson Light Twin 2½ h.p. Ideal motor for tender or dinghy. Weighs 35 pounds. Speed 2 to 9 m. p. h.

Performance— *that wins satisfaction and holds it*

YACHT and cruiser owners who rely on the Johnson for shore-boat power get a *real* thrill at this motor's wonderful performance; its responsiveness—its flexibility—its power to maneuver against a head wind or a wind on the quarter. For every condition of wind, water or speed a Johnson *Light Single* or *Light Twin* offers the ideal "go between" astern of dinghy or tender.

And how a Johnson handles. Because of Full Pivot Steering the entire motor turns. You get any—all—*every* direction, not merely forward and reverse. You get *full* power—or any part of that power in the direction you are going. There is no rudder. You can start sideways—forward—astern. No trick getting away from pier or shore. Only a Johnson gives you this feature.

The easy start — the easy control — the wonderful maneuvering ability of a Johnson—inspires you with a feeling of complete satisfaction the very first time you operate one.

Any Johnson dealer will gladly let you take one for a trial. Ask about the deferred payment plan.

Write for our book "The Guide to Waterways Travel." Gives routes of water trips. Sent Free!

JOHNSON MOTOR COMPANY
3606 Sample Street, South Bend, Ind.

Eastern Distributor and Export:
New York Johnson Motor Co., *Inc.*
4 West 61st St., New York, N. Y.

Canadian Distributor:
Peterborough Canoe Co.
Peterborough, Ontario

Johnson
Outboard Motors

WORLD'S LARGEST MANUFACTURERS OF OUTBOARD MOTORS

flashed in our eyes. It looks mushy enough to permit a landing, but the sailors say otherwise.

At 4,000 feet we ran into clouds. It seemed too much. I swore silently. We were to be cheated of our last plan. There was no alternative — I decided to shoot across. Far away I could see the Gulf of St. Lawrence.

We started inland. At 4,000 feet! In another minute I was praying to myself. Praying for the continued roar of *Caroline's* power plant.

Then the clouds dropped. We were flying into the wind and the great billows of mist came racing towards us. They were thick blankets of cotton, not fog, but thick clouds. There we were, over land, not a drop of water within thrice our gliding range and the clouds forcing us lower. Down we went. The altimeter crawled slowly backwards — three thousand feet, twenty-five hundred, two thousand, twelve hundred, eight hundred, seven hundred, six hundred and fifty — I opened the throttle. The trees seemed to reach for our wings. The farmers' shacks seemed to scrape the keel.

With the motor wide open I pointed *Caroline's* nose for the nearest point of water. The time for brains and skilled flying had passed. There was no thought of science or strategy. It was luck now. If the motor held out we'd make it. If not —

I thought of many things in the next six or seven minutes. Of New York and its gilded palaces of pleasure, of a book I had at home concerning the adventures of a Parisian romantic, of the rum punches my mother's maid warms at Christmas time, of the real *Caroline's* slim ankles — strange thoughts those.

Then the rocky coast of the Gulf of St. Lawrence floated beneath my eyes and the deep blue waters that Jacques Cartier discovered so many years ago spread out before us. We had made it. The motor had not failed. We were safe again. I sighed and glanced at Harry. He was as carefree and serene as the gulf — he hadn't had a thought of danger. Little did he know of the capers a flying boat, forced to land on land, would cut. Oh, the bliss of ignorance.

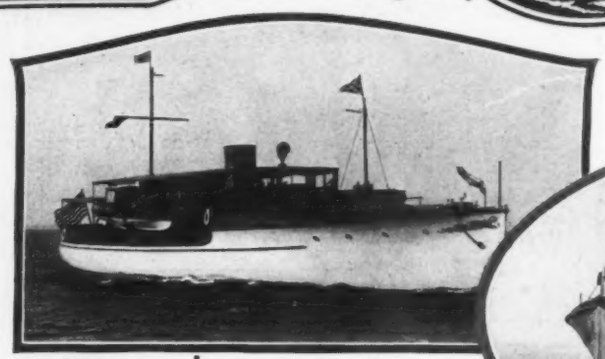
As we cruised gently towards Pictou, our troubles behind us, the yellow shore, the blue waters spread out ahead. We watched the tiny, lazy waves splash against the rocks and the white spray float gently down the wind. . . .

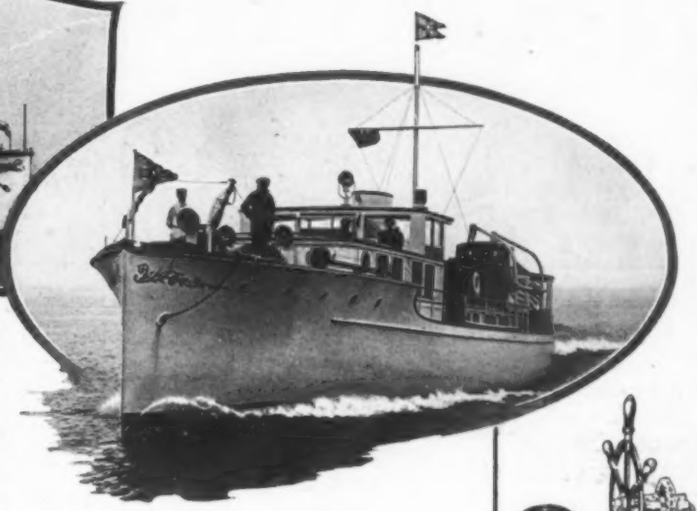
By Sneakbox to Florida

(*Continued from page 60*)

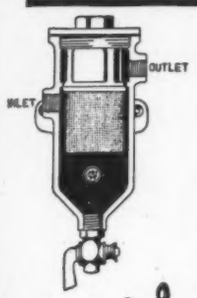
set out shortly after dark, one boat towing the other. And a cold night's run it was; Frank went below to sleep out the first watch of about three hours, with the kerosene lantern as an aid in keeping warm. When under power our watches were always measured in terms of gasoline consumption; a tankful ran our Johnsons about an hour and forty minutes at full speed, and if the fellow on watch was growing sleepy he always saw to it that the motor was kept at top speed. When it became too rough to enter the Patuxent River in the darkness we anchored below Cove Point Lighthouse and shivered under the hatches for two hours before we got under way again at sunrise.

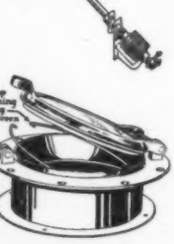
Leaving Solomons we ran into our roughest water; another night run too, although one which we hadn't planned. A northeaster rolled up a sea which shut the *Crab* from view as she sank into the troughs, just the tip of her mast showing over the crests. We had expected to anchor for the night in a creek in the mouth of the Patuxent, but with the tide low the entrance was dry and we had to run on about thirteen miles to St. Jerome Harbor. When we squared off down the bay — under power of course, for it was no time for sails — the following seas sent us racing along on the foam and then lapped over the stern as we settled back in the trough. We had to keep our

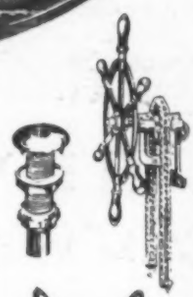


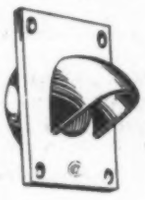


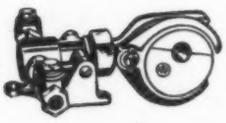
ABOVE: 92-ft. Diesel Cruiser "Ramna" owned by Walter B. Lashar, president of the American Chain Co., Bridgeport, Conn.
RIGHT: Twin-screw cruiser "Sea Dream" 100 ft., 18 miles, owned by Samuel M. Nicholson, president of the Nicholson File Co., Providence, R. I.
Both of these beautiful cruisers fitted out with Wilcox Hardware





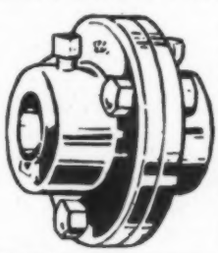






The Best You Can Buy

When you put a fine craft overboard you want the best fittings on her that it is possible to buy. That means you will use Wilcox Dependable Marine Hardware, a wise selection that guarantees not only the utmost in safety but less cost of upkeep and higher resale value. To buy any of the fittings produced by the world's largest manufacturer of marine hardware, is to follow the example of the best builders and most particular boat owners. You will be pleased with the service given by the Wilcox Flange Couplings, accurately made as to shaft size, within the limits of each size of coupling.



For example, a 1" and a 1¼" shaft may be coupled by using a No. 2 male coupling bored for one size and a No. 2 female bored for the other. Made in two weights, "Regular" and "Heavy." The "Regular" couplings are suitable for most marine engines; the "Heavy" for work boats where great strength is desirable. Each coupling is fitted with standard keyway and set screws.

Buy Them at Your Dealers' or Write Us

Every Boat Owner needs a copy of "Sea Craft Suggestions and Supplies." Solves those daily "puzzlers" that few know how to handle. Tells how to Box the Compass, etc., describes WC Dependable Marine Hardware; tells uses. 50 cts. prepaid.

WILCOX, CRITTENDEN & CO., Inc.
10 South Main St., Middletown, Conn.

When you build, insist on

WILCOX FITTINGS

TO NEW BOAT OWNERS

A yacht is a pleasure boat. It will add to your pleasure if your boat carries a complete outfit of linens monogrammed with your flags. Flags, like those illustrated, can be applied in full color, to table cloths, towels, blankets, sheets, and spreads — everything needed to make life comfortable aboard. Actual samples available on request.

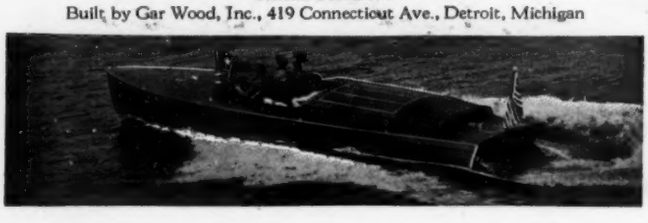
MOSSE
INCORPORATED
730 FIFTH AVE
NEW YORK, N.Y.

SPEED BEAUTY AND COMFORT

THE BABY GAR runabout attracts your attention by its speed — you recognize it by its graceful lines — its look of a thoroughbred — and once you have ridden in it you will glow with enthusiasm for the solid comfort of its appointments — its staunch seaworthiness.
The BABY GAR is as easy to control as an automobile. Equipped with the famous Gar Wood Marine engine, it has one horsepower for every 3½ pounds of weight. It is the favorite of the best known sportsmen of America and Europe.

For Real Sport—Get a BABY GAR. *Mr. Lyon will be pleased to arrange a demonstration at your convenience.*

Howard W. Lyon, Gotham National Bank Building, N. Y. City
"Exclusive Distributor"
Telephone: Columbus 1212
Florida Office:—507 Meridian Avenue, Miami Beach, Florida
Miami Beach 856
Built by Gar Wood, Inc., 419 Connecticut Ave., Detroit, Michigan



weight well aft to avoid diving into the sea ahead, and only the solid decoy rack around the stern kept the after deck from being under water most of the time. At one time, after the boats were completed, we had contemplated cutting larger openings in this rail to supplement the scuppers, but fortunately had not done so. Seas taken over the bow never found their way aft in volume which the scuppers could not carry off quickly, and the following seas would have poured freely on deck through a larger opening. On one occasion when the *Sheldrake* was permitted to slur too far to one side the top of a sea curled up and broke over the engine, causing it to sizzle and splutter in its indecision whether to stop or not; but being momentarily freed of its load as the boat shot along on the wave it picked up again on both cylinders and ran on as before.

(To be continued)

Off Shore With *Mary*

(Continued from page 63)

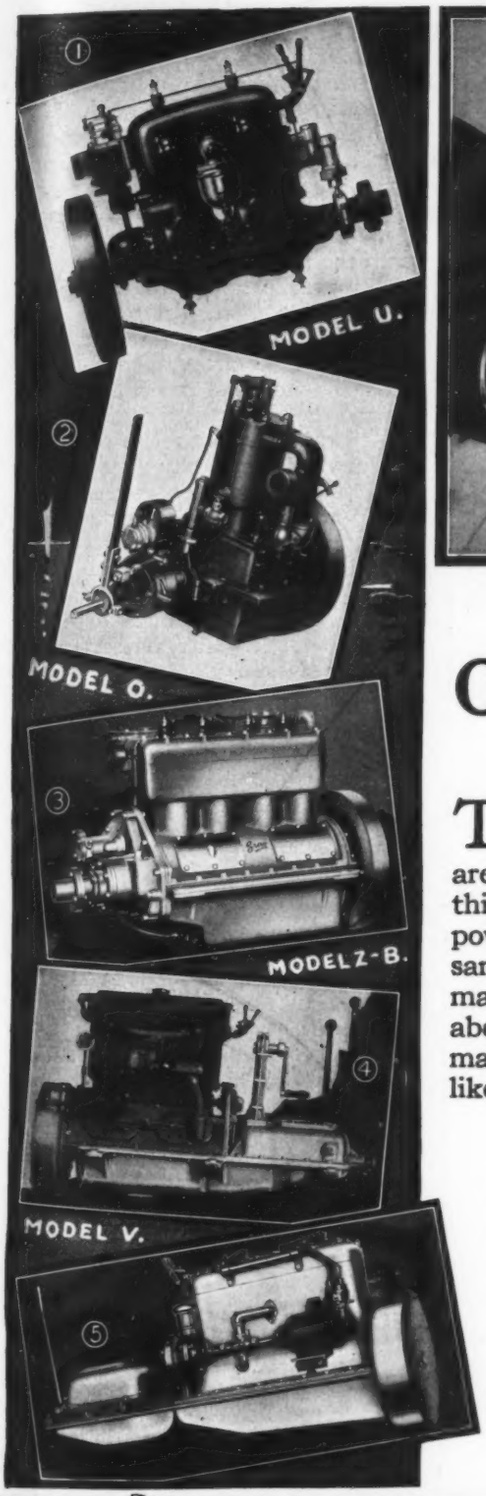
sion remained unpleasantly in our minds, and at about two of the morning gave Chase a bit of a jar. In my watch, earlier, I had bent a line onto a cork life preserver, a new and spotless white one, and heaved it overside so that if anybody happened to get overboard there would be something handy to grab.

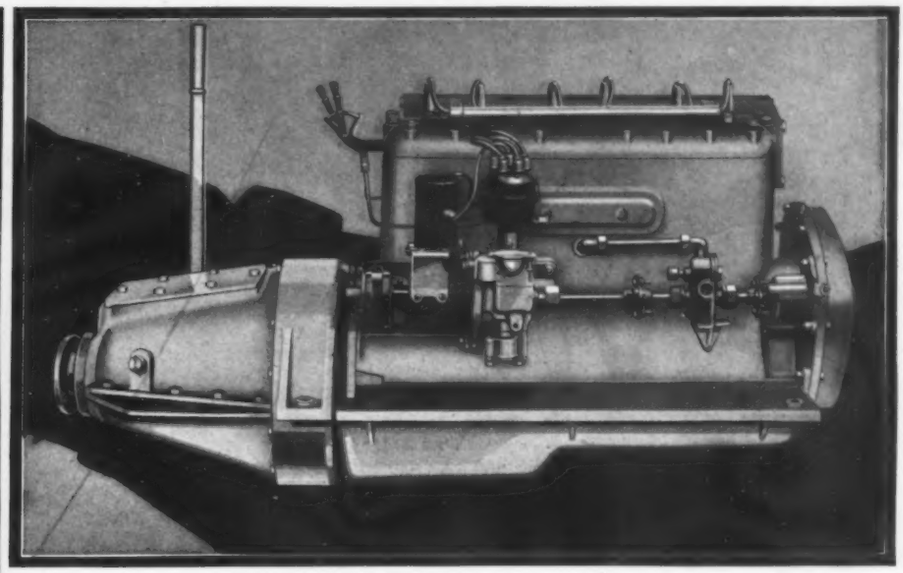
Chase was not aware of this precaution. When taking his sounding he happened to glance astern. *Mary* was forereaching, and this glaring white object following on in a white flame of phosphoresence. It looked to Chase as if the gruesome object of the night before was trying to catch us up and come aboard. Yes, that was one spooky night.

The morning was not much better. A little worse, in fact, as the wind had hauled S.E., lightened, and made lee shoals of it. Moreover the big swells were mounting higher, "dragging their feet" as Chase remarked, and threatening to break. By this time he had worked out a line of position from the soundings, and it checked almost exactly with three other such possible positions in our near proximity on the chart. With all due respect to my former superior officer Lieutenant W. J. Henderson, I am unable to agree with his statement "If your chain of soundings agrees with those on the chart right under your course, all is right. If not, move the tracing-paper about, keeping the meridian line due north and south, till you find the place on the chart that does agree with you. That is where you are. You will not find two places where you can get that chain of soundings on the same course and at the same distances."

So in we went, feeling our way along through the fog with the lead, playing blind man's bluff up the South Channel. The wind dropped flat and we let her drift, whacking the bell and still sounding. The tide set us over eastward toward the Georges, then set us back again. In the early morning the mackerel fleet passed us close aboard and we heard human voices other than our own. A big side-wheeler, whatever she was doing out there, came charging down on us, evidently heard our bell and took a sheer. Still befogged, so far as weather went, we came on up, found the Chatham buoy and went into Provincetown, hoisting the code-flag over Q as we passed the coastguard station.

By this time our strained rudder post was wringing like the neck of a cruelly killed fowl, the rudder flapping like the tail of a fish. We were easing the strain as much as possible with the jury rig. I had wanted to hold right on for Boothbay Harbor, Maine, but prudence dictated a repair to the rudderstock at the earliest opportunity. Another breeze of wind or heavy swell must have let us down, and this steering with a lily stalk was getting on our nerves. The job of properly bracing the gear took three days, so we entered officially at Provincetown.





Two New Gray Sizes — 50 h.p. and 75 h.p.

Over 60,000 Gray Motors

Good Since 1906

THROUGHOUT the world you will find Gray owners. There are more than sixty thousand Gray owners. Many of them are not first time owners, — their present Gray is their second or third and even fourth. Many are operating a fleet of Gray powered boats. The boats that these sixty and some odd thousand Gray owners use, represent every type of motor boats in many and varied services. There is no doubt in any user's mind about the suitableness of Gray power for his boat. There are many hundreds of successful Gray installations in boats just like yours or the one you will buy.

The Gray Line Complete

Model "U" — 6-8 h.p. 2-cycle, 2-cylinder. A motor of quality. New low price $144.00

Model "O" single-cylinder, 4-cycle valve-in-head. Magneto or timer equipped, weight 165 pounds. Operates on gasoline or kerosene . . . . . $99.00 to $136.00

Model "ZB" — 14-25 h.p. open flywheel type, for oystermen, lobstermen and all small commercial boats $270.00 to $295.00

Model "V" — 25-35 h.p. Overhead valves, weight 550 pounds. Suitable for runabouts and cruisers . . . . . $595.00 to $720.00

Model "H-50" — Gray Hercules, bore 4", stroke 5". Brute power at medium speeds; rugged construction . . . . $525.00 to $675.00

Model "Z" — 14-25 h.p. Light and compact, ideal for auxiliary installations, complete with electric starter $380.00 to $480.00

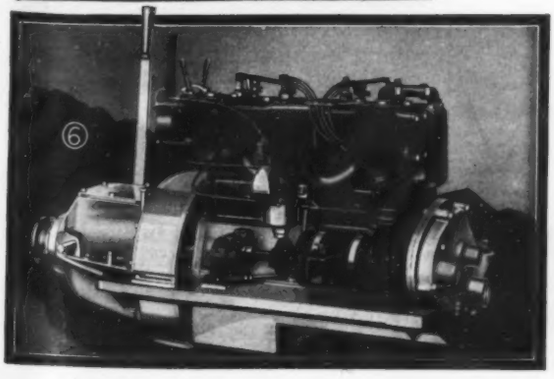
Supreme Six—50 h.p., six cylinders, 3½" x 4½", delivering a smooth flow of real power $895.00

Imperial Six-75 h.p., six cylinders, 3½" x 5"; rated low with ample reserve power. $1285.00

Get all the facts — Write today for catalog

Gray Marine Motor Company

720 Lafayette Avenue, East, at Canton, Detroit, Michigan



GRAY MOTORS

4 out of 5 *now lose*

The law of averages is immutable. Dental statistics prove that four out of every five over 40—and thousands younger, too—are marred by Pyorrhea. Do you want to escape?

It takes healthy gums to keep healthy teeth

Bleeding gums are Nature's first warning. Then the gums begin to recede, lose that rich, healthy pink color. Poisons collect in pus pockets and often drain through the entire system, causing indigestion, anaemia, rheumatism and other serious diseases of mid-life.

Take no chances—use Forhan's

If used in time and used consistently, Forhan's will prevent Pyorrhea, or check its progress—something ordinary tooth pastes are powerless to do. It contains just the right proportion of Forhan's Astringent (as used by the dental profession in the treatment of Pyorrhea). It is safe, efficient and pleasant-tasting. Even if you don't care to discontinue your favorite dentifrice, at least start using Forhan's once a day.

Forhan's is more than a tooth paste; it checks Pyorrhea. Thousands have found it beneficial for years. For your own sake ask for Forhan's For the Gums. All druggists, 35c and 60c in tubes.

Formula of R. J. Forhan, D. D. S.
Forhan Company, New York

Just as a ship needs the closest attention under the water-line, so do your teeth under the gum-line
Forhan's
TRADE MARK
FOR THE GUMS
"BRUSH YOUR TEETH WITH IT"
FORMULA OF
NEW YORK
Specialist in
DISEASES OF THE MOUTH

Forhan's

FOR THE GUMS

More than a tooth paste—it checks Pyorrhea

Nautical Nuggets

(*Continued from page 66*)

sure to belay all lines carefully. Brace the bow if keel is hung far aft.

As the tide goes out you can use your sapolio and scrubbing brush from a dinghy on the off side, and by removing your shoes and stockings, or wearing rubber boots, you can scrub the inner side.

Many yachtsmen would like to paint their craft in distinctive color combinations. This is a laudable idea and one to be encouraged, but for heaven's sake let an expert handler of oils and dryers mix it for you. White and black have been the standard topside colors for many years. A few other colors have been used successfully, notably yellow, gray, and green. Blue is a hard color to use, and does not wear well outdoors. Light green is the most popular color for racing bottoms, but there are browns, reds, a white, and a bronze finish to be had.

The use of a boot-top or line of some width, between the color on bottom and the sides, often makes for beauty and accentuates the water line. This stripe is different in color from either bottom or sides.

With a bright or varnish topside finish, and a light green bottom paint, one can use a pure white boot-top line. Where a bronze bottom paint is used they often put on a green stripe. Yellow or buff, in various shades, seems to be the favorite deck paint. Battleship gray is used quite often and makes a pleasing combination when the sides are black and bottom green, white or bronze.

In the next article will be found instructions relative to fitting out for a racing season. It will contain hints on overhauling your sails, renewing rigging, and placing of leads and cleats for the speedy handling of sails in racing.

Building a Model R. Yacht

(*Continued from page 88*)

In figure 7 is shown a gooseneck. The mastbands are made of flat stock, and the cup or bell of tubing, pressed together where it enters the swivel. The swivel is made of stock which is oblong in section. All parts are bolted together as shown in the sketch.

The maststep, shown in views "A" and "B," Figure 8 may be fitted on deck. If the builder wishes to allow the mast to pass through the deck, and have an adjustable step the one in sketch "C" can be utilized. Center of effort can be readily shifted with this device.

A hook for the headstay is shown in Figure 9. The shank is sweated

into a screw. The head and slot have been removed from a common wood screw and a hole bored to admit the shank of the hook.

New Rig for Seawanhaka Schooners

(*Continued from page 79*)

As a result a displacement much greater than the minimum provided by the rules was required, which, with the moderate rig given them, meant that in light weather these schooners could not make a good showing against the regular racing classes in the Sound. In all kinds of weather these schooners made an excellent showing against craft of similar type, and in a heavy breeze their performance compared favorably with the yachts of lighter displacement. This showing has caused a number of the owners in the class who are particularly interested in racing to decide upon a new sail plan, which the designers have prepared. This plan, in accordance with modern schooner practice, discards the regular foresail and substitutes two staysails between the masts, the lower being fitted with a boom. Also a short bowsprit has been added and the mainmast height has been increased by 8 feet. The actual effect of these alterations is not only a considerable addition to the sail area, some 400 square feet, but an increased efficiency on the wind.

Seen at the Motor Boat Show

(*Continued from page 84*)

Consolidated Shipbuilding Corporation exhibited one of their attractive and popular Playboats, 34 feet long, finished in the usual high grade fashion of this company, and two mahogany yacht tenders, one being of the coupe type, to carry on the davits of a large yacht.

Nor were sails missing at the Show. The Luders Company had one of their 15-foot Redwings, a little up-to-the-minute keel boat of excellent design and workmanship. The Milton Boat Yards had a new Great Scot, 21 feet long, selling at $950, and a Wee Scot 15-footer at $400. The Cape Cod Shipbuilding Company had a line of knockabouts and dories, and J. H. Perrine exhibited the famous Barnegat Bay sneak boxes, in several sizes, all rigged and equipped for sailing.

Several special articles in this issue deal with some of the new engine features seen at this Show. These will bear careful study by the man who is interested in engine development. The Sterling Company's new model, the Chevron, built in 4- and 6- cylinder sizes, 5½" bore by 6¾" stroke, was a feature of the exhibit of this company.

Decorating the Yacht

(*Continued from page 70*)

suited to the owner's needs. The commode and desk are especially capacious and reveal the pleasant truth that utility may very often assume an attractive form. The draperies and bed covering of red and gold Chinese damask relieve what might otherwise be the monotony of a one-toned room. Altogether, it is an interior possessing much warmth and dignity.

The guest stateroom, smaller than the one just described, is charmingly compact.

Oh! Look at the Smith Brothers

as they would appear today!

Of course, you know the Smith Brothers — *Trade* and *Mark*. Their famous cough drops and their facial shrubbery have been equally renowned since 1847.

True benefactors of a wheeze-racked race, they must have been the kindliest of souls, possibly even jolly and given to clear-ringing laughter. We know they were progressive, from the business they founded.

So we have good reason to believe that if *Trade* and *Mark* were alive today, immortal as their lozenges, we should see them standing in the front rank of successful men, happy and whiskerless — users of Barbasol!

For this is the age of Barbasol!

Itself a benefactor of immeasurable value, Barbasol takes all the wickedness out of shaving, leaving only cleanliness and smoothness. Transforms an age-old nuisance into an easy bit of morning razor play. Abolishes the messy brush and the time-consuming rub-in. Just this way:

1 — Wash the face as usual (but leave it wet)
2 — Spread on Barbasol (but don't rub in)
3 — Shave.

And such a shave! Smoother, closer, evener and easier than any you've ever had. The full-bodied, creamy Barbasol holds every hair up straight and stiff against the blade, and swish, swish — isn't that nice and silky?

No sting or smart; no ingrowing hairs. That's because Barbasol leaves the natural oils right in the skin — takes nothing away but the whiskers.

Send one thin dime for the trial tube. Use Barbasol three times, as per directions, and you'll know why the Smith Brothers would never raise whiskers now.

Barbasol

For Modern Shaving

Coupon

The Barbasol Co.
Indianapolis, Ind.

I enclose 10c. Please send trial tube and I'll give it a fair trial.

Name .....

Address .....

Y-3-26